AN INVESTIGATION OF THE RELATIONSHIP BETWEEN VALUE CHAIN ACTIVITIES AND GENERIC STRATEGIES IN SMALL AND MEDIUM-SIZED ENTERPRISES IN UK MANUFACTURING

by

ANTONIOS MICHAIL

BSc (Economics, University of Athens), MA (International Business, UCLAN), Dip. MCIM (CIM)

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ABSTRACT

In this study an in depth investigation of successful competitive strategies for small to medium-sized enterprises (SMEs) is undertaken. The overall aim of this study is to analyse the strategic orientation of UK Manufacturing SMEs. In the process, it will test Porter's (1980, 1985) theoretical framework of generic strategies and thus evaluate firms' preferred strategic synthesis. It will, therefore, test the efficacy of the value chain and develop any specific pattern that relates to a combination strategy.

The investigation of the above objectives is undertaken utilising a mixed research methodology with the purpose of examining the applicability of existing competitive strategy frameworks (phase 1) and testing a new theoretical framework that incorporates additional dimensions of strategy (phase 2). During phase 1, Porter's framework is employed to investigate SMEs' strategic orientation as a means to achieve sustainable competitive advantage. A semi-structured questionnaire is employed and the analysis is carried out by means of factor and cluster analysis to identify strategic variables currently employed by SMEs. During phase 2, the theoretical framework is operationalised to bridge the gap within the literature and existing empirical research. Its purpose is to identify forms of successful competitive strategies of UK MSMEs as they are formulated and implemented in firms' value chain activities. The data was collected through a number of semi-structured interviews and the analysis was based on data categorisation.

The findings indicate that Porter's (1980) single generic strategies are not the best option for UK MSMEs for gaining competitive advantage and that the competitive strategy of successful MSMEs differs from that of the less successful ones. Successful UK MSMEs develop competitive strategies that are characterised by a combination of

strategies as they are formulated within firms' value chain activities. Although, during the evaluation of strategic synthesis at value chain level, the data analysis demonstrated that not all forms of combination strategies can deliver a high performance. One of the significant findings to emerge from this study is that the value chain framework is essential when analysing forms of successful competitive strategies of UK MSMEs. The results of this investigation also show that generalisations and previous recommendations regarding successful MSMEs competitive strategy should be interpreted with caution.

Some important implications for managers and researchers follow from these conclusions. The findings suggest that, although Porter's model is an excellent initial classification scheme, in reality there are modifications of strategy in practice. UK MSMEs managers need to recognise that the formulation of successful competitive strategies can be developed within the value chain, and that competitive advantage frequently involves the simultaneous pursuit of differentiation and low-cost strategies. In addition, top managers must work closely with lower-level managers to implement strategic practices consistent with, and supportive of the chosen competitive strategy.

To conclude, this study predominantly contributes to knowledge in the field of formulating successful competitive strategies, although it also contributes in the field of strategic management. One of the major contributions of this thesis is the investigation of the applicability of Porter's (1980) generic strategy typology by UK MSMEs. Another major contribution is the examination of the usability of the new competitive strategy framework to UK MSMEs by filling the gaps identified in the literature, and by utilising the value chain framework in the process of analysing successful competitive strategies.

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Chapter 1

INTRODUCTION

1.0 Introduction

Over the last few decades, a significant restructuring of business and industry has occurred through globalisation, a consequential movement toward government deregulation and privatisation, as well as an immense wave of technological innovation. Grimm (2005) states that those movements resulted in an increasingly competitive environment and have had an enormous impact and are likely to continue to affect the way business is conducted into the twenty-first century. According to Takala (2002), those globalisation shifts and changes have forced manufacturers to reconsider themselves in terms of quality, cost, and ability to deliver.

Simultaneously, the technological revolution and increasing globalisation present major challenges to firms' ability to maintain their competitiveness (Hitt et al., 1998). Some of the recent important strategic discontinuities encountered include the elimination of industry boundaries, fewer distinctions between the industrial and service sectors, major advances in logistics, computer aided design and communication, and opening of global markets. It has been suggested that the ability to adapt and transform these challenges from problems into opportunities will separate the successful companies from those following (Leveson, 1991; D'Aveni, 1994; Hitt et al., 1998; Hamel, 2000).

To adapt in a continually changing environment firms need to create differences between their firm positions and those of their rivals (Porter, 1985). Competitive

strategies have been developed and formulated with the purpose of assisting firms in performing various activities differently than their rivals (Zott, 2003). As a result since the late 1970s a number of competitive strategy frameworks have been proposed and empirically tested (Hayes & Schmenner, 1978; Miles & Snow, 1978; Wheelwright, 1978; Porter, 1980; Richardson et al., 1985; Roth & Morrison, 1992; Miller & Dess, 1993; Chandler & Hanks, 1994; Day and Nedungadi, 1994; Katsikeas, 1994; Wright et al., 1995; Krajewski & Ritzman, 1996; Hooley et al., 1998; Spanos & Lioukas, 2001; White, 2004).

Despite the widespread application of competitive strategy frameworks, Porter's (1980) generic strategy typology is the most commonly used framework in a variety of industries, firm size, and countries and has been widely accepted by both academics and business strategy practitioners. However, Porter's generic strategy framework has been extensively criticised in relation to flexibility, usability in various industries, and success in delivering a competitive advantage (Miller & Friesen, 1986a, 1986b; Kim & Lim, 1988; Wright et al., 1991; Miller & Dess, 1993; Helms et al., 1997; Yamin et al., 1999; Beal & Yasai-Ardekani, 2000; Marques et al., 2000; Shah et al., 2000; Jacome et al., 2002; Lau, 2002; Spanos et al., 2004).

Extensive research into the competitive strategy literature has resulted in the identification of a number of issues in relation to Porter's generic strategies and other frameworks' applicability and usability. First, the majority of the research either supporting or criticising Porter's framework, has been conducted in relation to US businesses (Wright et al, 1991;Yasmin et al., 1995; Lau, 2002), using the PIMS database (Miller & Friesen, 1986a,b; White, 1986; Miller & Dess, 1993), investigating services sector (hospitals, retailers, banking, airlines) companies (Kling & Smith, 1995; Kean et

al., 1998; Parnell, 2000; Marlin et al., 2004), and only a limited number of studies have focused on European countries (Booth & Philip, 1998; Silva et al., 2000; Hlavacka et al., 2001; Spanos et al., 2004).

Despite the importance of the manufacturing small and medium-sized enterprises (MSMEs) in the UK economy little of the literature has focused on their specific situation (O'Donnell et al., 2002). Specifically, there are a limited number of studies investigating SMEs' competitive strategy (Helms et al., 1997; Beal & Yasai-Ardekani, 2000; Upton et al., 2001). In addition, only a small number test Porter's strategic typology in relation SMEs' competitive strategy (Dess & Davis; 1984; Miller & Toulouse, 1986; Helms et al., 1997; Beal & Yasai-Ardekani, 2000; Upton et al., 2001). Moreover, it is evident from various studies (for instance, Jennings & Beaver, 1997; Mintzberg et al., 1998; McGowan et al., 2001) that investigating the formulation of competitive strategies within SMEs has a mixture of implications. Mainly because of the lack of homogeneity, limited resources, owners' expectations, and usually strategy-making is emergent, adaptive, accidental and based on personal relationships.

The above discussion indicates that there is a gap in the literature in relation to the employability and usability of Porter's typology by UK's MSMEs. Hence, this study will contribute to knowledge by investigating whether UK MSMEs utilise Porter's typology with the purpose of gaining competitive advantage over their rivals.

Second, another gap in the literature concerns the employability of Porter's framework by UK Manufacturing SMEs. While much has been written on the nature of business strategy, there is a lack of understanding of the strategy typology and the relation between internal factors and the environment for this group of companies (Pelham,

2000). So far, various studies focus on SMEs' quality and innovative elements of performance but not necessarily the strategic direction and performance of those actions (Smallbone et al, 1995; McAdam & Armstrong, 2001; Salavou et al, 2004; Oke et al, 2007). In addition, Porter's generic strategies have been examined mainly in connection to US manufacturing SMEs (Chandler & Hanks, 1994; Beal, 2000; Pelham, 2000). This study will investigate and test the applicability of competitive strategies in UK manufacturing SMEs.

Third, an additional gap in the literature is that the majority of studies test generic strategies based on the form of differentiation and cost leadership alone. They exclude the possibility of a combined strategic synthesis as a typology (Hall, 1980; Hambrick, 1983b; Dess & Davis, 1984; Green et al., 1993; Marques et al., 2000). Even if their results support the fact that there is a positive relationship between combined strategy and performance, all their investigation is based upon variables relating to pure generic strategies and not upon other forms of strategic synthesis. A combination strategy could have different characteristics than those proposed by previous studies (Miller & Friesen, 1986a/b; Kim & Lim, 1988; Wright et al, 1991; Parnell, 1997; Yamin et al, 1999; Lau, 2002; Allen et al., 2007) and Porter's initial conceptualisation of generic strategies. The aim of this study therefore is to seek to bridge this gap by investigating MSMEs' successful competitive strategies and examining the strategy-performance relationship.

Fourth, another gap in the literature identified is the missing link between the value chain framework and the generic strategies typology. According to Porter (1985), a company can gain competitive advantage by performing value chain activities more cheaply or differently than its competitors and by managing linkages among its value chain activities. Hence, if a company wishes to achieve a competitive strategy, it must

encompass every aspect of the business so that every manager and employee knows what the objectives of this strategy are and as a result every decision and action is consistent with it and serves to put it into practice (Pearson, 1999). The value chain framework can be considered as the main tool for formulating, diagnosing and implementing a generic strategy. This thesis will contribute to knowledge by investigating competitive strategies based on the value chain framework rather than just asking questions about the overall firm competitive strategy (that is, either cost leadership or differentiation).

1.1 Research Objective and Aims

With the above arguments in mind, this thesis will seek to make an original contribution to the literature through the identification of successful competitive strategies for UK manufacturing SMEs. The main objective of this study is to evaluate strategic typologies and, in the process, it will test Porter's (1980) theoretical framework of generic strategies and thus discover firms' preferred strategic syntheses. In detail the following are the aims of this thesis:

- To analyse the types of business-level strategies that UK manufacturing SMEs adopt with the purpose of developing and gaining competitive advantage over rivals. An evaluation of various strategic alternatives in relation to firm performance will identify competitive strategies that deliver higher performance than others.
- Porter (1980) described his generic strategies as alternatives and mutually exclusive. This study aims to analyse in what form generic strategies can be employed (combined or single types), and evaluate preferred syntheses of successful strategic frameworks. As a result, a new framework of combined strategic types will be presented and tested. This thesis will evaluate whether single and/or a combination of competitive strategies lead to higher firm performance.

- To evaluate whether firms use both primary and secondary activities of the value chain and to analyse specific patterns that relate to a combination strategy. This investigation will identify forms of strategic patterns that are associated to higher firm performance over rivals.

1.2 Research Design

This thesis will investigate the objectives discussed in the previous section by initially testing Porter's generic strategies for their applicability and usability by UK MSMEs. Despite the wide application of Porter's strategic typology in various industries and settings there is not a study investigating his framework in this sector. This thesis therefore contributes to knowledge by examining whether UK MSMEs employ Porter's generic strategies.

On the other hand, Porter's typology has a number of under-developed areas and thus there is no consensus as to whether a pure or combination strategy is the most appropriate strategic synthesis for MSMEs to achieve competitive advantage over their rivals. Similarly, there are few studies employing the value chain framework to test the formulation of competitive strategies, which mainly focus on examining a single dimension of the value chain (for instance, marketing, human resource management, IT, etc.) and not its totality. Hence, this thesis contributes to knowledge by proposing a theoretical framework which integrates the employability of competitive strategies (as they are utilised by firms within their value chain) while taking into consideration the dynamism of the external environment.

To investigate the above gaps in the competitive strategy literature, this thesis will employ a mixed research methodology, which combines both elements of positivism

and phenomenology. The positivist methodology (deductive approach) tests Porter's theory in two ways: first a number of datasets available from UK Data Archive (online data sources) were used to investigate the competitive strategies of UK MSMEs based on a number of variables; second, to cover the gaps in the number of variables employed in those datasets this study carried out an additional questionnaire survey. The analysis of the data is based on a number of statistical methods widely used by the competitive strategy literature to test the competitive strategy and firm performance variables (for instance: Hambrick, 1983; Kim & Lim, 1988; Parker & Helms, 1992; Yamin et al, 1999; Silva et al., 2000; Jacome et al., 2002).

Quantitative analysis is completed by a phenomenology stage (inductive approach), utilising a qualitative approach with the purpose of testing and tuning the proposed competitive strategy framework to MSMEs. The analysis of the data is based on data categorisation that resulted from the semi-structured interviewees that were carried out (Saunders et al., 2000).

1.3 Outline of the Thesis

Chapter One provides an overview of this thesis by evaluating a number of gaps in the competitive strategy and points in which this study will contribute to knowledge. Following the previous analysis, the aims of this thesis are outlined and demonstrate the content of each chapter.

Chapter Two reviews various competitive strategy frameworks and discusses reasons why this study is focused on Porter's (1980) generic strategy typology. It demonstrates in detail Porter's framework in relation to competitive strategy, and its various dimensions. In addition, this chapter describes ways of achieving competitive

advantage in relation to Porter's typology. The value chain framework is described and its relationship with each generic strategy is presented with the purpose of identifying the importance of the link between the two different frameworks. Chapter Two further examines a number of gaps identified within the strategic management literature. All these gaps are critically evaluated in relation to competitive strategy theory and in accordance to Porter's generic strategies. In the process of evaluating the literature, a number of studies supporting or criticising Porter's competitive strategy typology are presented. This comparison took place with the purpose of investigating the strengths and weaknesses of the generic strategy framework. To fill those gaps in the literature and contribute to knowledge a theoretical framework for formulating competitive strategies is presented. Its various dimensions are explained in detail highlighting the relationship between value chain, combination strategies, Key Success Factors, and the external environment.

Chapter Three addresses the research methodology and examines the issues and arguments behind the choice of research approach and method. For the purposes of this study a mixed methodology was employed to address the issues identified during the literature review. A quantitative approach was employed to test Porter's typology of UK Manufacturing SMEs by employing available datasets from UK Data Archive. To further analyse the competitive strategy direction of firms, this thesis utilised a survey questionnaire which employed a greater number of variables compared to the previous datasets. On the other hand, to test the proposed framework of combined competitive strategies a number of semi-structured interviews (qualitative approach) were carried out with UK MSMEs. This method was chosen with the purpose of evaluating in depth the formulation of competitive strategies within firms' value chain activities.

Chapter Four starts the discussion with the methods chosen to analyse the quantitative data. A variety of statistical techniques are employed and the reasons for choosing them in the context of this study are discussed. A detailed analysis is undertaken with the purpose of presenting the results of the various datasets and evaluates the applicability of Porter's generic strategy framework by UK MSMEs.

Chapter Five addresses the approach to qualitative data employed. It analyses the proposed framework and its various dimensions by evaluating the formulation of competitive strategies within firms' value chain activities. It investigates the importance and influence of the external environment and the consideration of key success factors in strategy formulation. Finally, this chapter evaluates forms of successful combined competitive strategies based on firms industry setting (mature, growing, declining). The analysis of the data contributes to knowledge by indicating forms of combined strategies which UK MSMEs can employ in order to gain competitive advantage over their rivals.

Finally, Chapter Six concludes the thesis: **(i)** Porter's typology is evaluated for its applicability to UK MSMEs sector; **(ii)** it analyses variations of combination strategies which are linked to superior performance of firms; and **(iii)** it contributes to knowledge by demonstrating forms of successful combination strategies that lead to superior performance based on firms' industry setting. The remainder of the chapter appraises the work and addresses the issues of major limitations of the study and discusses the implications for the development of theory and future studies.

Chapter 2

A STRATEGY FRAMEWORK

2.1 Introduction

Strategy frameworks have been developed with the purpose of providing a simplified version of the real business world so that practitioners are able to develop and take effective strategic decisions (Pearson, 1999). These frameworks offer a variety of strategic synthesis, simplification of the real world, and analysis of complexity in various ways. As discussed in Chapter 1, the overall aim of this research project is to investigate strategic typologies and in the process, it will test Porter's (1980, 1985) theoretical framework of generic strategies and thus discover firms' preferred strategic syntheses.

In order to provide a clear understanding of the generic business strategies, the researcher reviews the competitive and business strategy literature. An extensive assessment takes place of articles and papers within various academic journals and major academic textbooks with the purpose of identifying, examining, and describing significant characteristics of strategic syntheses. Hence, this study aims to establish a theoretical context for the competitive and business strategy literature.

2.2 The Business and Competitive Strategy Context

Within the following sections the thesis elaborates various competitive strategies, provides the main frameworks developed, and illustrates their characteristics. This is considered essential, as this research project will investigate competitive strategies of

companies with the purpose of investigating those elements providing competitive advantage.

Porter (1985) states that the purpose of a business-level strategy is to create differences between the company's position and those of its competitors. Hence, when a company chooses to perform its activities differently or to perform different activities than its competitors is the essence of business-level strategy (Porter, 1985, 1996). According to Zott (2003), a chosen business level strategy assists a company to establish and exploit a particular competitive advantage within a particular competitive scope.

This strategic advantage should be of a kind that can be utilised as soon as possible and last as long as possible. Its function is to generate profits above the industry average and to gain market share and create differences between a company's position and those of its rivals (Porter, 1996). Beard and Dess (1981) state that a firm should have a separate business-level strategy for each industry in which it competes, and the relevant characteristics of the firm's business-level strategy would be measured relative to the range and norms on each characteristic in each of its industries. Hofer and Schendel (1978:27-28) outline this view, thus: *"At the business level, strategy focuses on how to compete in a particular industry or product-market segment. Thus, distinctive competences and competitive advantage are usually the most important components of strategy at this level"*.

Competitive strategy is therefore defined as the dimensions in which a company has chosen to compete in their industry with the purpose of sustaining itself and successfully grow (Hayes and Weelwright, 1984). Competitive strategies can have various dimensions and characteristics. For instance, companies can achieve

competitive advantage by reducing their prices (Wheelwright, 1978; Hill, 1993; Krajewski & Ritzman, 1996); by achieving higher quality (Wheelwright, 1978; Hill, 1993; Krajewski & Ritzman, 1996); fast delivery times (Krajewski & Ritzman, 1996); achieving high levels of differentiation (Porter, 1980; 1985).

One of the major works in the competitive strategy field is that of Miles & Snow (1978) that identifies four strategic types: (i) *Prospectors* are companies which maintain a level of flexibility and utilise innovation practices to deal with uncertainty and environmental changes; (ii) *Defenders* seek stability and control in their operations with the purpose of achieving maximum efficiency; (iii) *Analysers* are companies which combine elements of the above two types and stress both stability and flexibility; and (iv) *Reactors* perform poorly and lack strategy.

Another popular competitive strategy framework was proposed by Porter (1980, 1985) that suggests a two-dimensional framework: strategic advantage and strategic target. The strategic advantage refers to the competitive advantage and scope which companies can choose, and strategic target relates to market choices that could be either broad or narrow. Therefore, he identifies four competitive strategies that could be pursued by businesses: cost leadership; cost focus; differentiation; and differentiation focus. Companies employing a cost leadership or cost focus strategy attempt to be the low cost producer in an industry. On the other hand, companies utilising a differentiation or focus differentiation strategy endeavour, in differentiating their product lines, with the purpose of appearing unique in a given industry, and thus allowing them to charge a premium price.

Further to the above popular frameworks of competitive strategy, are a number of other frameworks that have been suggested. Based on the empirical study of 15 Canadian electronics firms, Richardson et al. (1985) identified two categories of competitive priorities with three distinct corporate missions within each one: Competitive advantage depending on: (i) innovations skills (technology frontiersman; technology exploiter; and technological serviceman), and (ii) low cost production (customiser; cost-minimising customiser; and cost minimise).

Mintzberg (1988) proposes a typology of generic competitive strategies using the dimensions of *differentiation strategies* (for instance, price differentiation strategy; image differentiation strategy; support differentiation strategy; quality differentiation strategy; design differentiation strategy; and undifferentiation strategy), *and scope strategies* (for instance, unsegmentation strategy; segmentation strategy; niche strategy; and customising strategy). According to Mintzberg (1988), differentiation is a supply-driven concept, whilst scope is a demand-driven concept. Day (1990) extended the two-dimensional framework to a three-dimensional framework (customer value, costs, and scope of market coverage). They argue that businesses fall somewhere along a continuum of all three dimensions - relative cost, relative differentiation, and relative focus – regardless of whether or not researchers choose to measure all of them.

Alternatively, Wright *et al.* (1995) develop three competitive attribute dimensions: high costs and high innovation/differentiation; low costs and low innovation/differentiation; and low costs and high innovation/differentiation. Hooley *et al*. (1998) propose that there are six basic positioning strategies, each differentially rooted in the resource profiles of firms: low price; superior quality; rapid innovation; superior service; differentiated benefits; and tailored offering. Thus, while there may be some overlap

regarding the nature of competitive attributes, the particular means by which firms can compete appear to differ markedly (Hooley et al., 2004). Krajewski & Ritzman (1996) propose a competitive strategy framework based on the dimensions of cost, quality, time, and flexibility elements of competitive strategy to low-cost operations, high-performance design, consistent quality, fast delivery time, on-time delivery, development speed, customisation, and volume flexibility.

Recently a new paradigm was introduced regarding the field of competitive strategy: the resource-based theory (RBV). The RBV is one of the most widely accepted theoretical perspectives in the strategic management field (Powell, 2001; Priem and Butler, 2001; Rouse & Daellenbach, 2002). RBV is based on the work of Wernerfelt (1984) and has been extended by various other studies (Barney, 1991; Grant, 1991, 1996; Wernerfelt, 1995; Henderson & Mitchell, 1997; Combs & Ketchen, 1999; Cockburn et al., 2000; Priem & Butler, 2001a). RBV stresses the importance of a company's unique competencies and resources (tangible and intangible assets, skills, and organisational capabilities) in strategy formulation, implementation and performance (Spanos & Lioukas, 2001; Parnell, 2002).

According to the RBV framework, competitive advantage arises when a company is employing a value creating strategy in their markets (Parnell, 2000; Hooley & Greenley, 2005). To be successful, companies must possess and deploy distinct resources that are scarce, valuable, insubstitutable, appropriable, which create value for customers and on the other hand cannot be imitated by their competitors (Barney, 1991, 1995; Mahoney & Pandian, 1992; Peteraf, 1993; Teece et a;., 1997; Foss, 1997; Parnell, 2000; Hooley & Greenley, 2005). Thus, if the resources are valuable and rare, but the competitors

have the ability to imitate or replace the resource by using substitutes, the firm will lose the competitive advantage (Barney, 1991).

Most companies have many resources (both tangible and intangible) but few that are strategic in nature. Most strategic assets tend to be knowledge-based and are intangible. Although tangible resources enable a company to execute business processes, it is the intangible ones that are more likely to serve as sources for competitive advantage (Brush, 2001; and Ray et al., 2005). Strategic assets involve a mix of explicit and tacit knowledge embedded in a company's unique internal skills, knowledge, and resources (Rumelt et al., 1994; and Foss, 1997). Such strengths are difficult to purchase, let alone copy; as a result, these can contribute to a firm's ability to move beyond competitive convergence toward a competitive advantage. Examples of strategic assets include quality, reputation, managerial skills, brand recognition, patents, culture, technological capability, customer focus, and superior managerial skills (Castanias, 1991; Kogut & Zander, 1993; Barney & Zajac, 1994; Chakraborty, 1997; and Hawawini et al., 2002).

RBV has gained considerable support from numerous studies (Coyne, 1986; Ghemawat, 1986; Grant, 1991; Hall, 1989; Stalk et al., 1992; Williams, 1992) that highlighted examples and cases of where companies with particular skills and capabilities were able to out-perform their competition. Empirical studies from Hitt & Ireland (1985); Markides & Williamson (1994); and Robins & Wiersema (1995) have tested companies from a variety of industries. For example, the study of Robins & Wiersema (1995), which was conducted among 88 firms listed in the Fortune magazine and acting in a variety of industries, indicated that the resource-based view has accounted for variance in financial performance. Hitt and Ireland (1985) examined the relationships of seven

distinctive functional competencies, consisting of 55 activities, to market returns of 185 Fortune 1000 firms in a variety of industries.

2.3 Investigation of Business Strategies and Choice of a Competitive Strategy Framework

One of the most critical steps in investigating business strategies is to select a framework, which incorporates critical dimensions and strong theoretical underpinning and empirical support (Tan, 1995). For the purposes of this research project, the researcher will employ Porter's generic strategy framework to study strategic synthesis of Small to Medium-Sized Enterprises (SMEs) within the Manufacturing sector in UK for the reasons described below. In the following paragraphs, the researcher will discuss and compare the two different approaches to competitive strategy: outside-in perspective and firm-specific effects on performance. In addition, it will provide reasons for choosing Porter's framework for the investigation of competitive strategies within the UK's MSMEs sector.

The field of strategic management has undergone, in the 90s, a major shift in focus regarding the sources of sustainable competitive advantage: from industry to firm specific effects. Within the classical industrial organization (IO) literature scholars have typically assumed that firm management can influence neither industry conditions nor its own performance (Mason, 1939; Bain, 1956) because firm conduct (i.e., strategy) is constrained by industry structural forces and it does not represent independent managerial action.

The modified framework advanced by Porter (1980; 1985; 1990; 1991) is fundamentally different from traditional IO theory in various ways. First, Porter

focuses on firm rather than industry performance, a characteristic of research in the strategic management tradition. Second, for Porter, industry structure is neither wholly exogenous nor stable, as commonly viewed in traditional IO theory (Bain, 1968; Caves, 1972). Finally, in Porter's framework, the role of firm's conduct in influencing performance, together with industry structure, is explicitly recognised. While industry structure still occupies a central role in explaining firm performance, undoubtedly reflecting a heritage from traditional IO, Porter chooses to focus on the role of firm activities and positioning as a way to the development of a dynamic theory of strategy (Porter, 1991). Then for Porter, holding industry structure constant, a successful firm is one with an attractive relative position. This position can either arise from the selection of a cost base lower than the competition or from the firm's ability to differentiate its offerings and command a premium price that exceeds the accumulation of the extra costs.

Porter (1985) considered that in the long-term the extent to which the firm is able to create a defensible position in an industry is a major determinant of the success with which it will out-perform its competitors. He proposed generic strategies by which a firm can develop a competitive advantage and create a defensible position. Porter argued that by adeptly pursuing the cost leadership, or differentiation strategies, businesses can attain significant and enduring competitive advantage over their rivals (Porter, 1985). Two schools of thought have emerged regarding the conceptualisation and adoption of competitive strategies. The first school of thought supports Porter in his assertion that an organisation has to choose one of the generic strategies and devote total commitment of resources to it (Dess & Davis, 1984). On the other hand, several other authors have argued against Porter's assertion, and suggest that organisations

should focus on a combination of strategies that best suit their circumstances (Wright et al., 1990).

The first school of thought maintains that viable companies can seek either efficiency or differentiation. According to Yamin et al. (1999), the more efficiency is sought by management, the less differentiated the company would be, while greater differentiation would be associated with a less efficient company. This school of thought reasons that the value chain required for a low-cost strategy is qualitatively different from the value chain required for a differentiation strategy (Yamin et al., 1999). The emphasis of a differentiation strategy is on achieving (even at considerable cost) superior quality and image throughout the value chain, while the emphasis of a low-cost strategy is on lowering cost wherever possible (Porter, 1980, 1985). Because of difficulties in reconciling apparently opposed strategic thrusts, profitable companies tend to compete with one strategy only.

An opposing prospective proposes that both low-cost and differentiation strategies may be simultaneously and profitably adopted by an enterprise. According to this notion, the adoption of a differentiation strategy would entail promoting higher product quality and involve bearing higher costs across a number of functional areas in order to support the differentiation strategy (Yamin et al., 1999). However, higher quality products would possibly lead to greater market demand, allowing the company to adopt a low cost strategy through the attainment of higher market shares and cumulative volumes of production (Yamin et al., 1999). Miller & Friesen (1986) found that the cluster of business units that show distinct competencies in the areas of differentiation, cost leadership and focus dramatically outperform all the others. In fact, they found that success associated with the possession of strategic advantages—the more the better—

rather than strict adherence to Porter's types. They argued that this issue certainly warrants further study as failure and success appeared to be systematic with poor performers exhibiting many weaknesses and virtually no strengths, while good performers show the opposite. Similar results were drawn by Wright et al. (1990) and Miller (1992). Based on their findings, strategic specialisation may leave serious gaps or weaknesses in product offerings, ignore important customer needs, be easy for rivals to counter, and in the long run cause inflexibility and narrow the vision of the organisation.

As a result of the inability of IO strategy researchers to agree on a common typology or resolve the combination strategy debate, emphasis in the field began to shift towards the RBV paradigm (Parnell, 2000). Central to Porter's view of strategy is the notion of activities. For Porter then, strategy is a consistent array or configuration of activities (Porter, 1991: 102), aiming at creating a specific form of competitive advantage. These in turn, together with the scope of operations define the notion of generic strategies.

A firm according to Porter is viewed as a bundle of activities whereas for the RBV is viewed as a bundle of unique resources. As Barney (1991) states, much of the empirical literature informed by Porter's framework, chose to focus analysis on the environment–performance relationship, placing little emphasis on the impact of idiosyncratic firm attributes on performance (Porter, 1990). This was implicitly due to two main assumptions. First, it was assumed that firms are identical in terms of strategically relevant resources. Second, any attempt to develop resource heterogeneity has no long term viability due to the high mobility of strategic resources amongst firms.

In contrast, the Resource Based View of the firm (RBV) focuses upon the relationships between firm internal characteristics and performance, and accordingly it advances two alternative assumptions: (i) firms may be heterogeneous in relation to the resources and capabilities on which they base their strategies; and (ii) these resources and capabilities may not be perfectly mobile across firms, resulting in heterogeneity among industry participants.

Rooted in evolutionary economics and the work of Penrose (1959), the resource–based approach has re-established the importance of individual firm, as opposed to industry (or particular strategic groups), as the critical unit of analysis. Resources are defined as those tangible (or intangible) assets that are tied semi-permanently to the firm (Maijoor & Witteloostuijn, 1996). Examples of such resources are: brand names, in-house knowledge of technology, skilled personnel, trade contracts, efficient procedures, and similar (Wernerfelt, 1984). In the early contributions, there was no explicit distinction between resources and capabilities. According to Amit & Schoemaker (1993) however, recourses are assets that are either owned or controlled by a firm, whereas capabilities refer to its ability to exploit and combine resources through organisational routines in order to accomplish its targets.

While both perspectives have made significant and complementary contributions in the field of strategic management (Foss, 1996, 1997a; Amit & Schoemaker, 1993; Peteraf, 1993; Mahoney & Pandian, 1992; Conner, 1991) they have been at odds with each other regarding the origin of sustainable competitive advantage. Hence, Porter's framework of generic strategies and the RBV draw from two different and antagonistic theoretical traditions.

In Porter's framework firm performance is a function of industry and firm effects (for example, market positioning) (Grant, 1991; Porter, 1991). Because industry structure is also, at least partly, susceptible to firm activities, these two determinants of firm performance are ultimately interrelated. According to Porter, industry structure affects the sustainability of firm performance, whereas positioning reflects the firm's ability to establish competitive advantage over its rivals. Having gained such an attractive position, a firm can exercise market power (Teece, 1984; Teece *et al*., 1997) and thus, acquire higher performance than its rivals. According to Porter (1980, 1985, 1991), higher performance stems from the firm's ability either to defend itself against competitive forces ("defensive" effects), or to influence them in its favour ("offensive" effects).

Porter (1991) views resources occupying an inherently intermediate position in the chain of causality with respect to firm performance. For Porter, business assets are built from either performing activities (that is, strategy) over time, or acquiring them from environment, or both. In either case, the available stock of resources reflects prior managerial choices, the latter related to the choice of strategy. Thus, the argument goes, activities are logically prior, since their successful implementation requires different resources and skills, organisational arrangements, control procedures and inventive systems (Porter, 1980). Thus, resources are not valuable because they are attached to strategic activities. Maintaining or enhancing these assets demands reinvestment through continuously performing these activities. Moreover, their significance critically depends on how well they support the strategy pursued, and by extension, how well they fit industry structure.

The resource-based perspective, by contrast, views the issue of strategy–resources and the resources– performance relationships from exactly the opposite angle. Within the traditional mainstream strategy research literature (see for example Andrews, 1971; Ansoff, 1965; Child, 1972), of which RBV incorporates important concepts (Mahoney and Pandian, 1992), strategy selection is based on careful evaluation of available resources (strengths and weaknesses). Over time, firms continue to follow strategies because of both the opportunities imposed by the market environment and the constraints that result from their own accumulated asset base, organisational structure, ownership and other firm specific factors (Barney, 1991; McGee & Thomas, 1986). Current or future strategic decisions are constrained by past resource deployments and result in further reinforcement of strategic profile. Because of constant environmental changes, managers do have choices to make about strategic alternatives but their options might be limited within the established framework of available resources (Spanos & Lioukas, 2001).

Accordingly, then, and in sharp contrast to Porter's contention, resources are valuable in and of themselves, driving the choice of strategy. Whereas Porter views strategy as being primarily industry driven, the resource-based perspective posits that the essence of strategy is or should be defined by the firm's unique resources and capabilities (Rumelt, 1984). Furthermore, the value-creating potential of strategy - that is the firm's ability to establish and most importantly sustain a profitable market position - critically depends on the rent generating capacity of its underlying resources (Conner, 1991).

This perspective's contention is that persistent differences in firm profitability require that either the firm's product be distinctive (for instance, differentiated), or attain a low cost position relative to its rivals (Conner, 1991). This of course is similar to Porter's

view. However, for the resource-based perspective, returns stemming from such a position in the market place, result, unlike Porter's, from acquiring and deploying valuable idiosyncratic assets rather than from industry structure.

The underlying logic holds that the sustainability of effects of a competitive position rests primarily on the cost of resources utilised for implementing the strategy pursued. This cost can be analysed with reference to strategic factor markets (Barney, 1986a), that is markets where necessary resources are acquired. It is argued that strategic factor markets are imperfectly competitive, because of different expectations, information asymmetries and even luck, regarding the future value of a strategic resource. Should factor markets be perfectly competitive, then the cost of acquiring strategic resources would equal their going economic value in use for implementing this strategy, and hence no firm could sustain its competitive advantage (Barney, 1986a).

The important point here is that a given strategy will generate sustainable performance differential if and only if the resources used to conceive and implement it are valuable, rare, non-imitable and non-substitutable (Barney, 1991).

To summarise, both of the paradigms approach firm performance in different perspectives and arguments. This thesis will employ Porter's typology to investigate competitive strategies within the UK's MSMEs sector and not the RBV. This decision was made because various studies indicate that RBV fails to explain performance differences between companies that have the same levels of uniqueness, rareness, non-limitability and isolation of their internal resources (for instance: Cool & Schendel, 1988). Fahy (2000) and Priem & Butler (2001) have argued that the RBV does not appear to be capable of supporting a theoretical framework as it fails to meet the

empirical criterion. For instance, in questioning the potential of the RBV as a paradigm in the field, Peteraf (1993) asks whether it 'provides much additional insight over traditional understandings'. Although Peteraf (1993) and others (Barney, 2001) have advocated it, the debate has not yet been resolved (Carmeli & Tishler, 2004). Another criticism is that RBV does not adequately consider how organisations establish the resources to create competitive advantage (Mathews, 2002).

One critical work, for example, has argued that RBV is paradoxical, processing contradictions and ambiguities, which have produced incompatible implications for managerial scholarship and practice (Priem & Butler, 2001). For instance, RBV suggests that the ability to measure a resource means that this resource will be less likely to be a source of sustained competitive advantage, yet it can be used to generate the means to achieve strategic advantage through their resource deployments (Lado et al., 2006). Moreover, Barney's (1991) argument that causal ambiguity sustains competitive advantage, by restricting rivals' ability to isolate and hence replicate rent-generating resources, itself suggests limited potential for empirical work (Lockett et al., 2009). RBV has been criticised in relation to the definition of competitive advantage because empirical tests normally involve seeking to explain inter-firm differences in performance with respect to observable differences in the firms' identifiable resources (Lockett et al., 2009). Investigating performance and competitive advantage in this way strictly tests the joint hypothesis that resources and not other factors could generate a competitive advantage (Lockett et al., 2009).

One area of criticism is the need for more empirical studies testing the basic insights and definitions of the theoretical framework (Farjoun, 1994; Yeoh and Roth, 1999). According to Carmeli & Tishler (2004) the design of most empirical RBV studies

suffers from a number of limitations including: (1) the use of a single major factor to explain variation in firm performance; (2) the use of a sample of firms from a single industry (without providing strong support that the investigated resources are industry specific); and, (3) the examination of each performance measure separately. Most quantitative studies have used a single resource such as human capital (for instance, Hitt et al., 2001) or leadership (i.e. Waldman et al., 2001). Although such studies yield some useful knowledge, it must be recognised that competitive position is derived from a combination of several resources and capabilities (Carmeli & Tishler, 2004).

Based on Godfey & Hill (1995), Fahy (2000), Hitt et al. (2001), Lopez (2001), Riahi-Belkaoui (2003), and Arend (2006) a major problem in using a set of resources and capabilities is that strategic resources and capabilities are, by nature, intangible and difficult to measure. Given the definition of valuable resources (rare, create value, inimitable, durable, transferable), the logical conclusion is that the very best resources will be the hardest to identify (Fahy, 2000), and also difficult to obtain in the first place (Miller, 2003).

In addition, RBV does not predict a universal relationship between firm performance and any particular resource (Lockett et al., 2009). On the contrary, the value of a resource to the firm will depend upon the specifics of its use. Therefore, even at the industry level, there may be no discernible relationship between firm performance and the possession of a specific resource (Lockett et al., 2009).

Compared to a number of other competitive strategy frameworks that fit into the IO paradigm, this thesis utilises Porter's typology because his framework of generic strategies is inherently tied to firm performance (Powell, 1995). Other typologies (for

instance, Miles & Snow, 1986) predate the more theoretically sophisticated strategic notions of Porter (Miller, 1988; Marlin et al., 1994). In addition, there is evidence that Porter's framework relates to other typologies (Marlin et al., 1994; Kumar & Subramanian, 1997/98). For example, Miles & Snow's (1978) 'prospector' and Miller & Friesen's 'innovators' are similar to Porter's strategy of 'differentiation' (Kumar & Subramanian, 1997/98; Parnell, 2002). Moreover, Miles & Snow's 'defender' and Dess & Davis' (1984) 'cost leadership' strategies, and Hambrick's (1985) "efficient misers" are similar to Porter's strategy of 'cost leadership' (Kumar & Subramanian, 1997/98; Parnell, 2002). Miles & Snow's (1978, 1986) typology is quite similar to Porter's in terms of consistency and proactiveness (Parnell, 2002). For instance, Porter's 'differentiation' and Miles & Snow's 'Prospectors' tend to emphasise proactivity, while 'cost leadership' and 'defenders' strategies are more reactive (Parnell, 2002). In addition, 'stuck in the middle' and 'reactors' lack of consistency (Segev, 1989).

Porter's typology has received more empirical support from previous research than have the other typologies (Kim & Lim, 1988; Marlin et al., 1994). Jones & Butler (1988) state that Porter's framework of generic strategies is the starting point for any discussion of the term 'competitive advantage'; and has dominated the strategic management literature (Hill, 1988; Kim & Lim, 1988; Miller & Dess, 1993; Kling & Smith, 1995; Ghingold & Johnson, 1998; Miller, 1998; Thompson & Stickland, 1998; Kumar & Subramanian, 1997/98; Silva et al., 2000; David, 2000; Brandenburge, 2002; Thompson & Stickland, 2003; David, 2002; Dess et al, 2004; Wheelen & Hunger, 2004; Allen et al., 2006).

Porter's generic strategies have been studied extensively and considerable support for their existence and effectiveness has emerged (Hall, 1980; Dess & Davis, 1984; Kim &

Lim, 1988; Miller, 1988; Calingo, 1989; Grant, 2002; Dess et al., 2004; Hooley et al., 2004; Dobson et al., 2004; Karloef, 2005; McGee et al., 2005; Hitt et al., 2007). Porter's framework of generic strategies has been well received (Miller, 1986) and it has become the dominant paradigm in business policy and strategy research (Hill, 1988; Murray, 1988). It is considered to be a classic text (Miller & Friesen, 1986a/b), characterised to be as most "notable" (Parnell, 2006), and can yield competitive advantage (Allen & Helms, 2006). In addition, the generic strategy framework is academically widely accepted and has been shown to be internally consistent (Dess & Davis, 1984). According to Reitsperger et al. (1993) Porter's framework has the primary virtue of being easy to understand.

There are a number of empirical studies that have evaluated the usefulness of Porter's framework in relation to performance and competitive strategy context (for instance, Dess & Davis, 1984; Miller & Friesen, 1986a/b; Green et al., 1993; Helms et al., 1997; Yamin et al., 1999; Marques et al., 2000; Silva et al., 2000; Spanos & Lioukas, 2001; Jacome et al., 2002; Lau, 2002; Spanos et al., 2004; Allen & Helms, 2006; Allen et al., 2007). Furthermore, Porter's generic strategies have been empirically tested in a variety of manufacturing industries (such as, the electronics (Kim & Lim, 1988); textile (Parker & Helms, 1992); crystal glass (Marques et al., 2000); and mixed industries (Green et al., 1993; Yamin et al., 1999; Spanos et al., 2004). His framework has been further tested within the service industry (i.e. hospitals, retailers, banking, airlines, hotels, ship management) and within general industries, which combined both manufacturing and services. Porter's framework has also been widely examined in a country setting. For instance, Australia (Prajogo, 2007), Greece (Spanos et al., 2004), Japan (Allen et al., 2007), Portugal (Silva et al., 2000; Jacome et al., 2002), UK (Parnell, 1997; Cousins,

2005; Oke et al., 2007), and USA (Miller & Dess, 1993; Kling & Smith, 1995; Kean et al., 1998; Helms et al., 1997; Ebben & Johnson, 2005).

The next sections discuss Porter's generic strategy and value chain frameworks. This will allow a better understanding of the various dimensions and characteristics of the competitive strategy as was initially presented by Porter (1980, 1985).

2.4 Porter's (1985) Value Chain Framework

Prior to examining the generic strategy framework, the researcher will demonstrate how Porter's value chain activities can be used for investigating in depth the applicability of competitive strategies within the different functions of a company.

Porter's framework of the value chain is one of the best known and widely applied frameworks of a company's value-creation processes (Sanchez & Heene, 2004). According to Porter: *"Competitive advantage cannot be understood by looking at a firm as a whole. It stems from the many discrete activities a firm performs in designing, producing, marketing, delivering and supporting its product. Each of these activities can contribute to a firm's relative cost position and create a basis for differentiation" (Porter, 1985:33)*

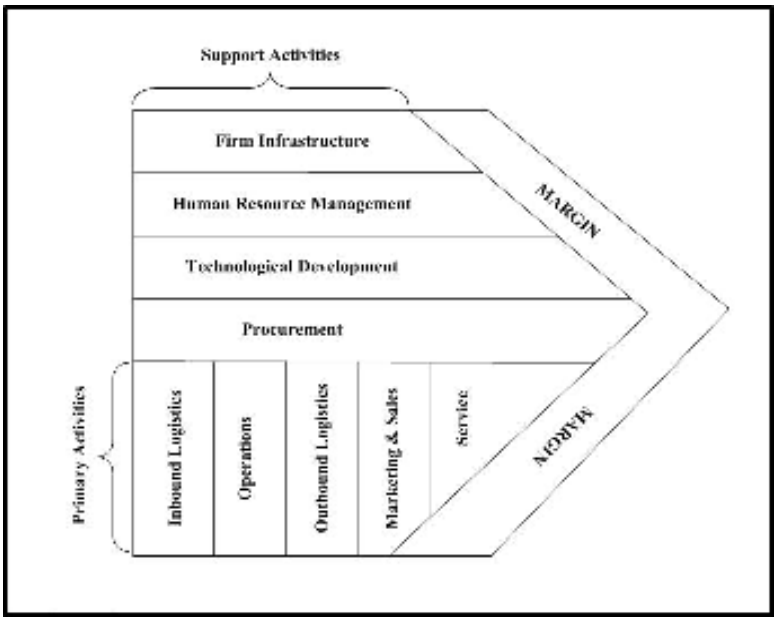
Porter (1985), Besanko et al. (2004), and McGuffog & Wadsley (1999) identify that a company's profitability is a function not only of industry conditions, but also of the amount of value it creates relative to its competitors. A firm can achieve competitive advantage if it posses 'capabilities' that allow it to create not only positive value but as well additional total value compared to its competitors (Porter, 1985; Hooley et al, 2004). By understanding why a company can create value and whether it can continue

doing so in the future is a necessary first step in diagnosing a firm's potential for achieving a competitive advantage in the marketplace (Hitt et al, 2007; Spanos and Lioukas, 2001). Therefore, a firm must understand how its products serve customer needs better than potential substitutes; the technology of production, distribution and sales; and the business's costs (Porter, 1985).

Porter (1985) introduced the concept of value chain as the basic tool for examining the activities a company performs and their interactions with a view to identifying the sources of sustainable competitive advantage. It separates the activities of a firm into a sequential stream of activities and is used to analyse and establish the importance of the different activities in delivering the final product/service, thereby facilitating the identification of core (primary) and non-core (secondary or support) activities.

Figure 2.1 exhibits Porter's framework of value chain activities. According to Porter (1985), in the value chain there are two categories of activities: (i) ***Primary activities:*** are involved with a product's physical creation; its sale and distribution to buyers, and its service after the sale (comprise inbound logistics, operations, outbound logistics, marketing and sales, and service). These activities are termed 'primary' because are the most important ones as they add value to the product or those involved in either producing or selling the product (White, 2004); (ii) ***Support activities*** provide the assistance required (Porter, 1980; White, 2004) for the primary activities to take place (consist of procurement, technology development, HRM, and infrastructure)

Figure 2.1: Porter's (1985) Value Chain Framework



Source: Porter, M. E. (1985). "Competitive Advantage: Creating and Sustaining Superior Performance". The Free Press, pg. 37.

According to Porter (1980, 1985) the primary activities of an organisation consists of: **(i) Inbound Logistics:** it involves supplier relationships and refers to all the processes/activities involved in receiving, storing and distributing the raw materials, inputs, components, and parts used in the production process; **(ii) Operations:** are the processes/activities of manufacturing, assembly, packaging, maintenance of the equipment, and testing of inputs to produce the final product; **(iii) Outbound Logistics:** relates to storage, processing orders, transport, and distributions of the product to the final consumer; **(iv) Marketing and Sales:** Marketing must make sure that the product is targeted towards the correct customer group. The marketing mix is used to establish an effective strategy; any competitive advantage is clearly communicated to the target group by the use of the promotional mix. It involves activities like advertising, promotions, sales force organisation, segmentations, selecting distribution channels, pricing, and managing customer relationships (for either current or potential ones); and **(v) Service:** All those activities associated with maintaining product performance after the product has been sold. It involves processes/activities that enhance the value of the

product in terms of installation, training, maintenance, repair, warranty, and after sales services.

On the other hand, Porter (1980, 1985) defines the support activities as: **(i) Procurement:** This concerns how resources are acquired for a business (e.g. sourcing and negotiating with materials suppliers). It occurs in many parts of the organisation with the purpose of supporting the main functions to carry out their activities (John et al., 1997); **(ii) Technology Development:** Activities concerned with managing information processing and the development and protection of "knowledge" in a business. In addition, it involves technology development to support R&D, process automation, and product design; **(iii) Human Resource Management (HRM):** involves activities in relation to recruitment, training, development, promotion, incentives, and payment of people working for an organisation; and **(iv) Firm Infrastructure**: involves the structures and routines of the organisation and its management, planning, accounting, finance, and quality control mechanisms.

Having explained the value chain framework and its relationship to a company's activities that add value, the researcher will now demonstrate its relationship and importance in relation to competitive strategy.

2.5 Porter's (1980, 1985) Generic Strategies

In the previous section, the researcher introduced the concept of the value chain framework and its importance in creating competitive advantage. In this section, an overview of Porter's (1980, 1985) generic strategies framework will be given. As it can be seen from *Figure 2.2*, Porter (1980) proposes a two-dimensional framework: strategic advantage and strategic target. Subsequently, Porter (1985) uses the dimensions of competitive advantage for example, considering whether the strategy

should be one of differentiation or cost leadership and competitive scope for example, whether the scope of the strategy should be broad or narrow, in place of the strategic advantage and strategic target. Therefore, he identifies four competitive strategies that could be pursued by businesses: cost leadership; cost focus; differentiation; and differentiation focus.

According to Porter (1980), a firm must decide whether to attempt to gain competitive advantage by producing at a lower cost than its rivals or differentiate its products and services and sell them at a premium price. Then, the firm must decide whether to target the whole market (broad) with its chosen strategy or to target a niche (narrow) market. A broad strategy targets many markets and a disparate cross-section of customers, and a narrow scope of highly focused strategies may target a very small number of segments (possibly just one).

If a company wishes to pursue the strategy of cost leadership, it has to be the low cost producer (Porter, 1980). A firm may gain cost advantage through economies of scale, proprietary technology, cheap raw material, etc. Organisations that achieve cost leadership can benefit either by gaining market share through lowering prices (whilst maintaining profitability,) or by maintaining average prices and therefore increasing profits (Porter, 1980). All of this is achieved by reducing costs to a level below those of the organisation's competitors. According to Porter (1980), the low cost leadership strategy attempts to increase market share by emphasising low cost relative to competitors. Porter states the following: *"gives the firm defence against rivalry from competitors because its lower cost means that it can still earn returns after competitors have competed away their profits through rivalry. A low cost position defends the firm*

against powerful buyers because buyers can exert power only to drive down process to the level of the next most efficient competitor" (Porter, 1980:35-6).

Figure 2.2: Porter's (1980) Framework of Generic Strategies

Source: *Adapted by:* Porter, M.E.. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. Free Press: New York.

The strategy of differentiation involves offering a different product, a different delivery system, or using a different marketing approach (Porter, 1980). It is up to the management of the company to decide which factors it wants to emphasise in order to gain competitive advantage (Porter, 1985). Companies that pursue a differentiation strategy win market share by offering unique features that are valued by their customers (Porter, 1980). According to Porter (1980, 1985): *"Differentiation provides insulation against competitive rivalry because of brand loyalty . . . The resulting customer loyalty and need for a competitor to overcome the uniqueness create entry barriers. Differentiation yields high margins with which to deal with supplier power and clearly mitigates buyer power since buyers lack comparable alternatives and are thereby less price sensitive. Finally, the firm that has differentiated itself to achieve customer loyalty should be better positioned vis-à-vis substitutes than its competitors"* (Porter, 1985:14 and Porter, 1980:37).

The third strategy focus is when a firm chooses a narrow segment within its industry and tailors its offerings (strategy) to that segment (Porter, 1980). Focus strategies involve achieving cost leadership or differentiation within niche markets in ways that are not available to more broadly-focused companies. Porter (1980) stated: *"the focus strategy rests on the premise that the firm is . . . able to serve its narrow strategic target market more effectively or efficiently than competitors who are competing more broadly. As a result, the firm achieves either differentiation from better meeting the needs of the particular target, lower costs in serving this target, or both"* (Porter, 1980: 38)

Finally, Porter labels firms that follow each generic strategy, but do not achieve any of them as "stuck in the middle". Porter asserted that the three strategies were distinct mutually exclusive alternatives. He argued that firms may be able to successfully pursue more than one of these strategies simultaneously, but "this is rarely possible." (Porter, 1980: 35). A firm which failed to follow one of the strategies was "stuck in the middle," which guaranteed the firm low profitability. Porter (1980) explains: *"The generic strategies imply different organisational arrangements, control procedures, and inventive systems. As a result, sustained commitment to one of the strategies as the primary target is usually necessary to achieve success. [A firm] either must take the steps necessary to achieve cost leadership…. or it must orient itself to . . . focus . . . or differentiation"* (Porter, 1980:40 – 41).

"The firm stuck in the middle is almost guaranteed low profitability. It either loses the high volume customers who demand low prices or must bid away its profits to get this business from the low-cost firms. Yet it also loses high-margin business – the cream – to the firms who are focused on high-margin targets or have achieved differentiation

overall. The firm is stuck in the middle also probably suffers from a blurred corporate culture and a conflicting set of organisational arrangements and motivation system" (Porter, 1980:42).

According to Porter (1980), 'stuck-in-the-middle' companies they have low profitability as they lack market share, do not lower their costs effectively, have not differentiated their products, or have not focused on a specific market segment. Thus, by trying to be "all things to all people" they are only setting themselves up for mediocrity (Porter, 1985). In addition, companies are end up being stuck in the middle because the fail to make choices about how to position themselves in the markets in which they compete. The stuck in the middle hypothesis has generated a great debate as there is empirical evidence that proves that being stuck in the middle is not actually a bad position to be (Miller & Friesen, 1986a/b; Kim & Lim, 1988; Wright et al., 1991; Parnell, 1997; Yamin et al, 1999; Lau, 2002; Allen et al., 2007). Further critical analysis will be presented in the next chapter, where the researcher will investigate the validity and usability of Porter's generic strategies.

2.5.1 Generic Strategies and Value Chain Framework

As was introduced in the previous sections, the purpose of a firm's competitive strategy is to generate superior profits compared to its rivals. Companies thus require a viable number of buyers preferring a company's product offering because of the superior value they perceive it has. Superior value for companies employing cost leadership is created by offering buyers a 'standard product' at a lower price (Dobson et al., 2004). Therefore, a firm must understand how its products serve customer needs better than potential substitutes; the technology of production, distribution and sales; and the business's costs (Porter, 1985).

Campbell et al. (2002) and Grant (1996) claim that value chain analysis is central to identifying where cost savings can be made at various stages within it and its internal and external linkages. Achieving a cost leadership position will depend upon the arrangement of the value chain activities with the intention of: (1) Using cheaper materials and other cheaper resources; (2) Reducing labour costs and increasing labour productivity; (3) Achieving economies of scale by high-volume sales; (4) Using high-volume purchasing to obtain discounts for bulk buying of raw materials; (5) Obtaining learning curve economies; (6) Identifying the relative importance of each activity comprising total cost; and (7) Examining which activities should be undertaken within the firm and which activities should be outsourced.

Cost savings can be introduced by cost leaders in all aspects of the primary and secondary value chain activities. *Table 2.1* shows a number of cost savings (based on the following studies: Porter, 1985; Hardy, 1994; Hax & Majluf, 1996; Grant, 2002) within the primary activities (inbound logistics, operations, outbound logistics, marketing and sales, and service).

In relation to differentiation, the value chain framework can assist companies in identifying the 'uniqueness' drivers and therefore achieve competitive advantage over rivals (Porter, 1985; Grant, 2002). Thompson & Strickland III (2003) argue that differentiation opportunities exist in every activity within the value chain and not just in marketing, quality and services. As with the case of identifying the low cost leadership drivers, similarly here his investigation is essential as it will be used by the researcher at a later stage to illustrate how UK manufacturing SMEs achieve differentiation strategies. Similarly, *Table 2.2* highlights those cost savings and differentiating opportunities (based on the same studies as above) in the secondary activities (firm

infrastructure, human resource management, technology development, and procurement).

2.6 Proposed New Theoretical Framework for Formulating Competitive Strategies

From the viewpoint of the paradigm of competitive strategies, this thesis describes the characteristics of Porter's generic strategies and value chain and relate them to one another.

Research into competitive strategies is generally based upon Porter's generic strategies typology, and firm performance (for instance: Dess & Davis, 1984; Miller & Friesen, 1986a/b; Green et al., 1993; Helms et al., 1997; Yamin et al., 1999; Marques et al., 2000; Silva et al., 2000; Spanos & Lioukas, 2001; Jacome et al., 2002; Lau, 2002; Spanos et al., 2004; Allen & Helms, 2006; Allen et al., 2007). This thesis adopts the widely accepted framework of generic strategies but elaborates it through the inclusion of additional components: the value chain framework; key success factors (KSFs); and external environment.

Table 2.1: Costs Savings & Differentiating Opportunities within the Primary Value Chain Activities

Value Chain Activity	Variety of Cost Savings	Variety of Differentiating Opportunities
Inbound Logistics	• Superior handling of incoming raw materials to minimise damage • Supplier-related cost saving activities (Direct supply; long-term 'win-win' relationship; highly efficient systems to link suppliers' products with a firm's production processes; & located in close proximity to suppliers)	• Superior incoming materials raise the quality of the finished products • Superior handling of incoming materials so as to minimise damage • Timelines of supply to the manufacturing process
Operations	• Purchase of inexpensive capital equipment • Efficient plant scale to minimise manufacturing costs (largest scale economies) • Timing of asset purchases • Specialisation and division of labour • Incremental improvements in coordination and organisation • Reduced labour input through mechanisation and automation • High yield, low detects of product faults and functionality	• Low defect rates that improve customer satisfaction • Conformance to product specifications improve product performance • Rapid responses to customers' unique manufacturing specifications • Consistent manufacturing of attractive products • Extent the product life cycle, wide product range & Enhance product appearance • Flexible manufacturing systems that will allow different frameworks to be made
Outbound Logistics	• Delivery schedule that reduces costs by computerising delivery routines • Selection of low cost transport carriers • Efficient order sizes (shipping in bulk lowers transportation costs) • Extensive warehouse network • Rapid delivery guaranteed	• Accurate and responsive order-processing procedures • Rapid and timely product deliveries to customers • Handling that minimises damage • Better shipping procedures minimise damages • Flexible delivery capability
Marketing & Sales	• Small, and highly trained sales force • Products priced to generate sales volume • Extensive personal relationships with buyers • Cost control on promotional activity • Timing of market entry • National advertising campaigns create economies of scale in buying media space/time	• Extensive granting of credit buying arrangement to customers • Extensive personal relationships with buyers and suppliers • More and better information provided to customers to aid them in selection • Greater convenience for customers • Effective and extensive advertising and promotions that builds image • Build brand awareness and reputation • Strong focus on high growth areas & high sales force coverage
Service	• A direct approach to low cost is simply to remove all frills and extras from a product • Effective product installations to reduce recalls • Training for dealers and customers • Highest technical service coverage • Expert service technicians repair product right the first time, avoiding the expense of follow-up calls	• High service quality • Extensive customer training to assure high-quality product installations • Complete field stocking of replacement parts • Superior technical assistance to buyers • Faster and reliable maintenance and repair services • Replacement of high quality parts assures a product's ability to perform • Customer credit • Effective and satisfactory customer liaison

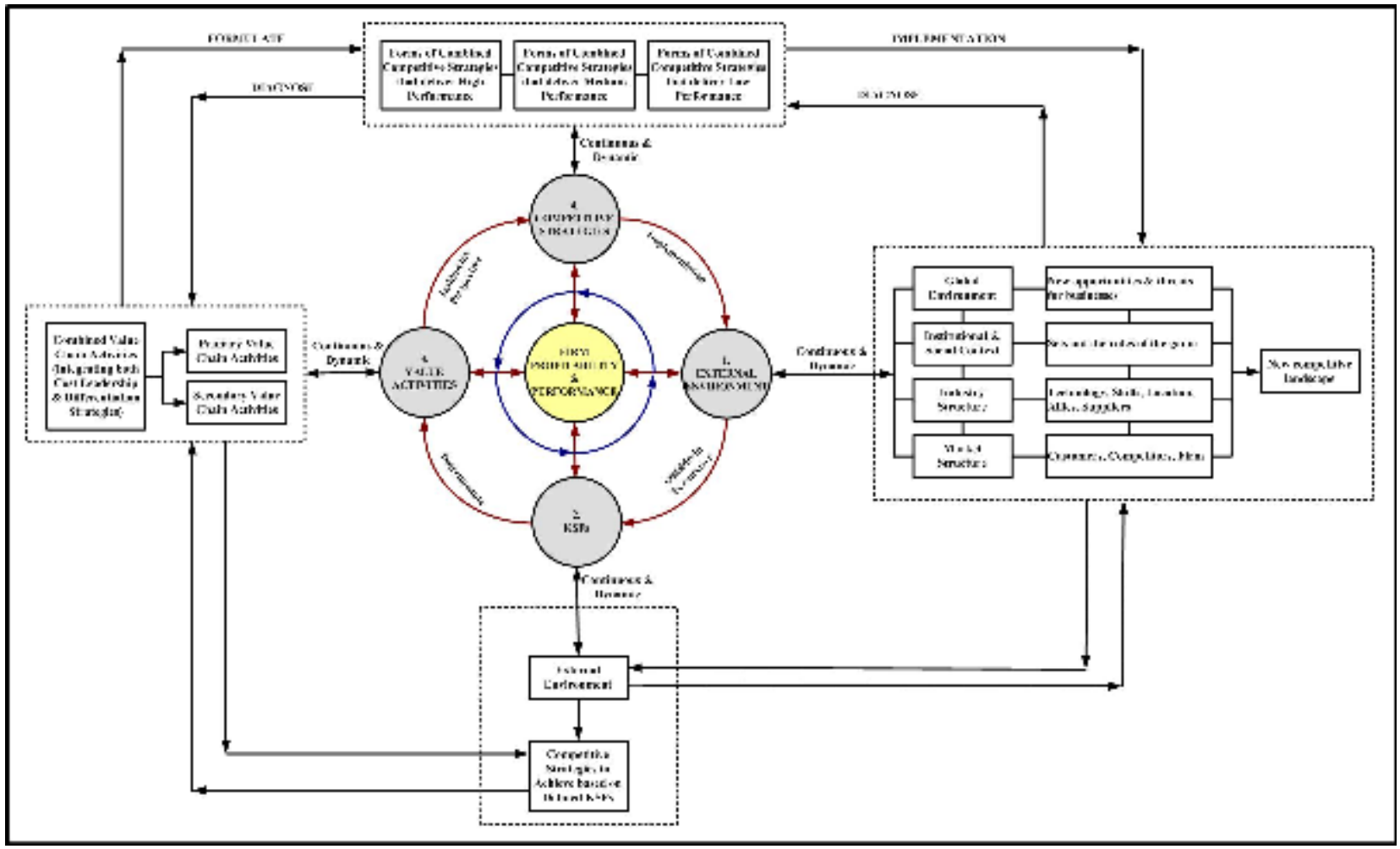
Table 2.2: Costs Savings & Differentiating Opportunities within the Secondary Value Chain Activities

Value Chain Activity	Variety of Cost Savings	Variety of Differentiating Opportunities
Firm Infrastructure	• Reduction of overheads • Highly developed Information Systems • CRM (to better understand customers' purchasing preferences) • Cost effective MIS systems • Simplified planning practices to reduce planning costs • Relatively few management layers to reduce overheads	• Highly developed information systems to better understand customers' purchasing preferences (CRM systems) • MIS that supports fast response capabilities • Top management support in all activities • Build corporate reputation
HRM	• Consistent policies to reduce turnover costs • Extensive use of subjective performance measures • Effective training programs to improve worker efficiency and effectiveness • Integrating sales and technical services	• Compensation programs intended to encourage worker creativity and productivity • Superior personnel training that support the goals for quality and responsiveness • Developing commitment to customer services
Technology Development	• Coordination among R&D, marketing and product development • Investments in technology in order to reduce costs • Product reformulation allows use of cheaper ingredients • Easy-to-use manufacturing technologies	• Strong capability in basic research • Easy to use manufacturing technologies • Investments in technologies that will allow a company to produce highly differentiated products • Cutting edge product features that outperform rivals • Patented production technology produces superior quality products • Fast new product development • Supports a Knowledge Management System • The use of internet for customer retention and acquisition • Unique product features through innovation • Best applications engineering support
Procurement	• Frequent evaluation processes to monitor suppliers' performance • Located in close proximity with suppliers • Systems and procedures to find the lowest cost products to purchase raw materials	• Systems and procedures used to find the highest-quality raw materials • Purchase of highest-quality replacement parts • Most reliable transportation for inbound deliveries • Close relationships with suppliers

The proposed framework shown in *Figure 2.3* differs from Porter's (1980) two dimensional matrix of competitive strategies and other frameworks that cover other dimensions such as the role of Key Success Factors (KSFs) in formulating competitive strategies, influence of the external environment and company resources (for instance, Walley & Thwaites, 1996; Ma, 1999; Spanos & Lioukas, 2001; White, 2004). The new framework consists of two major parts: the inner and outer positions. The inner part is represented by circles and begins with the profitability of a firm, which is their primary target. To do so, they need to take into consideration the external environment with the purpose of identifying and satisfying customer needs, and anticipate changes within their industry (position 1 in the diagram).

Firms then need to examine KSFs and whether can add value to customers through the value chain activities (position 2 in the diagram). By organising the value activities firms can formulate competitive strategies with the purpose of being successful (position 3 in the diagram). Finally, companies implement those strategies that could result to high, medium, or low firm profitability. The circular format (from position 1 to 4 in the diagram) denotes the sequence of activities in the development and formulation of competitive strategies. Thus, firms need to take into consideration both the external environment and value chain activities. Moreover, the arrows point in a clockwise and anti-clockwise direction which signifies that the whole process is continuous and dynamic. The outer parts are represented in the form of boxes and consist of additional information in relation to positions 1, 2, 3, and 4. Firms need to take into consideration all the relevant information when investigating the relevant positions with the purpose of assisting them when diagnosing and formulating competitive strategies.

Figure 2.3: Proposed Theoretical Framework for Diagnosing and Formulating Integrated Competitive Strategies



Specifically, the framework differs in relation to: (i) the dynamics of the framework because it introduces additional dimensions such as KSFs, and external environment; (ii) the integration of competitive strategies with a company's value chain activities; (iii) the formulation of competitive strategies based on a combination of elements of both differentiation and cost leadership; and (iv) the integration with the dynamics of the external environment (for instance, customers, rivals, regulations). The following sections discuss in detail the role of each dimension of the framework illustrated in *Figure 2.3*.

2.6.1 The Role of Environment

Porter (1980) has been criticised in relation to the dynamics of the generic strategy framework. Grimm (2005) states that one problem with Porter's framework is that it tends to view industries as in equilibrium and competitive advantage as sustainable. However, today's environment is fast changing and dynamic. Companies need constantly to reassess their strategic position and adapt their strategies. Thus, using Porter's framework with the purpose of committing in the longer term may lead firms to a poor position with lower than average performance (Grimm, 2005).

External environments influence strategic decisions in numerous ways. Firm performance is a result of an appropriate fit between strategy and external environment (Miller & Friesen, 1983; Venkatraman & Prescott, 1990; Chan et al., 2004). Moreover, the pattern of strategic fit with the external environment will differ from one strategy dimension to another (for instance, different fit for differentiators and another one for cost leaders).

The external context is very broad ranging and includes government/regulations, competitors, customers and global movements. For the purpose of this study, the researcher has used the definition provided by McGee et al. (2005). Their framework consists of three levels of external environment: (i) Market Structure (includes competition and customers), (ii) Industry Structure (refers to those environmental conditions that firms operate within and suppliers, distribution and third parties, skills and knowledge, and technological advances) and (iii) Institutional and social context (involves governments, regulations, ethics and social dimensions).

However, this framework does not refer to a global environment and thus the researcher has added this dimension. According to Christmann & Taylor (2002) the reduction of barriers to trade and foreign direct investment in the last twenty years set the stage for a period of tremendous growth in cross-border flows of goods and capital—an era referred to as 'globalisation.'

Williamson & Zeng (2004) and Govindarajan & Gupta (2001) define globalisation as the increasing economic interdependence among countries and their organisations as reflected in the flow of goods and services, financial capital and knowledge across country borders. According to Boudreau et al (1998), Morrison & Schmid (1994) and Brock & Hormats (1990) in the last 20 years, national economies have become increasingly integrated into a complex web called the global economy. A significant shift in the organisation of business is behind this integration.

Technological advances in telecommunications, information processing, and transportation have made possible the coordination of extremely complex organisational functions' from product design to manufacturing and marketing that can be applied in

several countries simultaneously (Hitt et al, 2007). Moreover, these movements in a global environment (power shifts) have an enormous impact and are likely continue to affect the way business is conducted well into the twenty-first century (Grimm, 2005). In recent decades these 'power shifts' have dramatically changed the ability to adapt and transform them from problems to opportunities and will separate successful companies from those following them (Leveson, 1991; D'Aveni, 1994; Hitt et al, 1998; Hamel, 2000; and Grimm, 2005).

As competitive priorities have changed dramatically during the last decades (Takala, 2002) they have forced manufacturers to re-positioned themselves from cost to quality and from delivery to responsiveness (Takala et al., 2003). More recently, manufacturing firms have placed greater emphasis on flexibility and agility while maintaining high performance on dependability, quality, and cost (Hayes & Wheelwright, 1984; Ferdows & De Meyer, 1990; Vickey et al., 1993; Vokurka & Fliedner, 1998; Kathuria, 2000; Li, 2000; Ward & Duray, 2000; Boyer & Lewis, 2002; Helo, 2005; Kazan et al., 2006).

Recognising the importance of taking into consideration the dynamics of the external environment when formulating competitive strategies, this thesis contributes to knowledge by integrating this dimension into Porter's generic strategy framework. Such integration allows business practitioners to examine external factors prior to formulating successful competitive strategies.

2.6.2 Key Success Factors (KSFs)

Another dimension that the new theoretical framework introduces is the Key Success Factors (KSFs) or Critical Success Factors (CSFs). KSFs can be thought of as attributes

that should receive priority attention because they strongly drive performance (Minarro-Viseras et al., 2005). McGee et al. (2005) define KSFs as: *"...to the range of competitive advantages evident in an industry from which firms make profits. ...KSFs can be seen as those elements in the industry that are deemed as important for customers"* (McGee et al., 2005: 178 & 267).

For instance, Mohamed (1998) in his thesis investigating competitive positioning strategies for the Malaysian wooden furniture business identified that determining KSFs can assist firms in formulating successful competitive strategies. In addition, he states that KSFs *"are closely related to the approaches to identifying sources of Sustainable Competitive Advantage"* (Mohamed, 1998:217). Correspondingly, Pickernell & Hermyt (1999) studied success factors within the new market environment for the UK meat, poultry, and cheese packaging and processing industries. They identified three sets of KSFs that relate to the success of firms in a changing environment: (i) focus on customer; (ii) focus on value added; and (iii) focus on pursuing improvements.

The aim of this study is to analyse successful competitive strategies of UK MSMEs (as was presented in Chapter One). Thus, KSFs in this thesis are investigated with the purpose of identifying those factors that will allow MSMEs to understand the importance and issues of the external environment (what actually firms need to do to satisfy customer needs and comply with other requirements). Moreover, it will examine the importance of KSFs in formulating successful competitive strategies.

2.6.3 The Role of the Value Chain with Combined Activities

In sections 2.4 & 2.5.1, an overall view of value chain activities was outlined. In addition, the relationship of the value chain activities with the formulation of

competitive strategies was discussed. Porter (1980, 1985) states that the value chain framework can be considered as a tool for formulating, diagnosing and implementing generic strategies (either cost leadership or differentiation).

According to Porter (1985), a company can gain competitive advantage by performing value chain activities more cheaply or differently than its competitors and by managing linkages among its value chain activities. Hence, if a company wishes to achieve a competitive strategy, it must encompass every aspect of the business so that every manager and employee knows what the objectives of this strategy are and as a result every decision and action is consistent with it and serves to put it into practice (Pearson, 1999). The value chain is therefore a logical way of looking at the overall business activities with the purpose of mobilising these various strategic impacts (Porter, 1984).

Table 2.3 demonstrates a plethora of Primary Value Chain Activities that exist within a firm. The value activities indicated in the table have been compiled by a number of studies such as Porter (1985); Grant (2002); McGee et al. (2005); and Hitt et al. (2007). According to those studies, each activity is used for gaining either a differentiation or cost leadership strategy. Thus, the symbol (+) in the table denotes that this specific activity is used by differentiators or cost leaders correspondingly. On the contrary, the symbol (-) states that this activity is not part of the strategy. For instance, direct supply from suppliers is an element of cost leadership and not of differentiation strategy. .

Table 2.3: Strategic Elements of Primary Value Chain Activities

Primary	Areas of Competence Associated with a Combined Strategy Framework	Cost Leadership	Differentiation
Inbound Logistics	Superior handling of incoming raw materials to minimise damage and improve the quality of the final product	+	-
	Direct Supply from Suppliers	+	-
	Highly efficient systems to link suppliers' products with a firm's production processes	+	-
	Located in close proximity with suppliers	+	-
	Long-term 'win-win' relationship results in supplier's passing through cost savings	+	-
	Superior incoming materials raise the quality of the finished products	-	+
	Superior handling of incoming materials so as to minimise damage	-	+
	Timelines of supply to the manufacturing process	-	+
Operations	Purchase of inexpensive capital equipment	+	-
	Efficient plant scale to minimise manufacturing costs	+	-
	Timing of asset purchases	+	-
	Specialisation and division of labour	+	-
	Experience effects raise efficiency over time	+	-
	Incremental improvements in coordination and organisation	+	-
	Reduced labour input through mechanisation and automation	+	-
	Highest product physical properties	+	-
	High yield, low detects	+	-
	Low defect rates that improve customer satisfaction	-	+
	Conformance to product specifications improve product performance	-	+
	Rapid responses to customers' unique manufacturing specifications	-	+
	Consistent manufacturing of attractive products	-	+
	Prevent premature product failure	-	+
	Extent the product life cycle	-	+
	Wide product range	-	+
	Allow better warranty coverage	-	+
	Enhance product appearance	-	+
	Flexible manufacturing systems that will allow different frameworks to be made	-	+
Outbound Logistics	Delivery schedule that reduces costs by computerising delivery routines	+	-
	Selection of low cost transport carriers	+	-
	Efficient order sizes	+	-
	Extensive warehouse network	+	-
	Rapid delivery guaranteed	+	-
	Interrelationships with other business units	+	-
	Accurate and responsive order-processing procedures	-	+
	Rapid and timely product deliveries to customers	-	+
	Handling that minimises damage	-	+
	Better shipping procedures minimise damages	-	+
	Flexible delivery capability	-	+

Table 2.3 continued:

Primary	Areas of Competence Associated with a Combined Strategy Framework	Cost Leadership	Differe ntiation
Marketing & Sales	Small, and highly trained sales force	+	-
	Products priced to generate sales volume	+	-
	Extensive personal relationships with buyers	+	-
	Cost control on promotional activity	+	-
	Timing of market entry	+	-
	Strong coordination among functions in R&D, Marketing and Product Development (horizontal integration)	+	-
	National advertising campaigns create economies of scale in buying media space/time	+	-
	Extensive granting of credit buying arrangement to customers	-	+
	Extensive personal relationships with buyers and suppliers	-	+
	More and better information (technical, specifications, data) provided to customers to aid them in selection	-	+
	More and better training materials for end users	-	+
	Quicker order processing	-	+
	Greater convenience for customers	-	+
	Effective and extensive advertising and promotions that builds image	-	+
	Build brand awareness and reputation	-	+
	Strong focus on high growth areas	-	+
	High sales force coverage	-	+
Service	A direct approach to low cost is simply to remove all frills and extras from a product	+	-
	Effective product installations to reduce recalls	+	-
	Training for dealers and customers	+	-
	Highest technical service coverage	+	-
	Expert service technicians repair product right the first time, avoiding the expense of follow-up calls	+	-
	High service quality	-	+
	Extensive customer training to assure high-quality product installations	-	+
	Complete field stocking of replacement parts	-	+
	Superior technical assistance to buyers	-	+
	Faster and reliable maintenance and repair services	-	+
	Replacement of high quality parts assures a product's ability to perform	-	+
	Customer credit	-	+
	Effective and satisfactory customer liaison	-	+

Similarly to *Table 2.3,* the following *Table 2.4* demonstrates the Secondary Value Chain Activities and could be used for identifying those elements that support the primary activities with the purpose of gaining a competitive strategy advantage. Those integrated activities will be investigated to identify patterns of successful competitive strategies for UK MSMEs. Thus, the value chain framework can be considered as the main tool for formulating, diagnosing and implementing a generic strategy. Despite the importance of the value chain framework in examining Porter's typology, there are no studies investigating successful competitive strategies by utilising both frameworks. So far,

empirical studies examine the typology based upon various strategy variables drawn from the PIMS database: for instance, Miller & Dess (1993) used 13 competitive strategy variables based on previous PIMS-based studies (Anderson & Paine, 1978; Hambrick, 1980; Prescott, 1986), whilst Miller & Friesen (1986a) draw upon the work of Hambrick (1983) in testing 20 variables in relation to competitive strategies.

Correspondingly, various studies examine competitive strategy variables based upon the synthesis developed by Miller & Dess (1984). For instance, Spanos & Lioukas (2001) employ strategic variables from Dess & Davis (1984) and Miller (1988) to examine the applicability of the generic strategies in the Greek manufacturing sector. Similarly, Marques et al. (2000) employ 21 strategic variables as used by Dess & Davis (1984) to test Porter's typology in the Portuguese Crystal industry.

Silva et al. (2000) used 17 strategic variables as used by Dess & Davis (1984) to test generic strategies in the Portuguese mould industry. Nayyar (1993) in his study testing the consumer product market in US employed 25 strategic variables based on Kim & Lim (1988), Miller (1988), Robinson & Pearse (1988), and Dess & Davis (1984). Another study by Beal & Yasai-Ardekani (2000) used 23 strategic variables as per Miller & Dess (1984); and Miller (1988). In addition, Allen et al. (2007) developed their 25 strategic variables based on Porter (1980, 1985) and Parker & Helms (1992).

Table 2.4: Strategic Elements of Secondary Value Chain Activities

Secondary	Areas of Competence Associated with a Combined Strategy Framework	Cost Leadership	Differentiation
Firm Infrastructure	Reduction of overheads	+	-
	Highly developed Information Systems	+	-
	CRM (to better understand customers' purchasing preferences)	+	-
	Cost effective MIS systems	+	-
	Simplified planning practices to reduce planning costs	+	-
	Relatively few management layers to reduce overheads (flatter organisation structure)	+	-
	Highly developed information systems to better understand customers' purchasing preferences (CRM systems)	-	+
	Extensive database on customers for effective advertising	-	+
	MIS that supports fast response capabilities	-	+
	A company-wide emphasis on the importance of producing high-quality products	-	+
	Celebrity CEO reinforces the company image	-	+
	Top management support in all activities	-	+
	Build corporate reputation	-	+
HRM	Consistent policies to reduce turnover costs	+	-
	Extensive use of subjective performance measures	+	-
	Effective training programs to improve worker efficiency and effectiveness	+	-
	Integrating sales and technical services	+	-
	Compensation programs intended to encourage worker creativity and productivity	-	+
	Somewhat extensive use of subjective rather than objective performance measures	-	+
	Superior personnel training that support the goals for quality and responsiveness	-	+
Technology Development	Coordination among R&D, marketing and product development	+	-
	Investments in technology in order to reduce costs associated with manufacturing processes	+	-
	Product reformulation allows use of cheaper ingredients	+	-
	Easy-to-use manufacturing technologies	+	-
	Strong capability in basic research	-	+
	Easy to use manufacturing technologies	-	+
	Investments in technologies that will allow a company to produce highly differentiated products	-	+
	Cutting edge product features that outperform rivals	-	+
	Patented production technology produces superior quality products	-	+
	Fast new product development	-	+
	Supports a Knowledge Management System	-	+
	The use of internet for customer retention and acquisition	-	+
	Unique product features through innovation	-	+
	Best applications engineering support	-	+
Procurement	Frequent evaluation processes to monitor suppliers' performance	+	-
	Located in close proximity with suppliers	+	-
	Systems and procedures to find the lowest cost products to purchase raw materials	+	-
	Systems and procedures used to find the highest-quality raw materials	-	+
	Purchase of highest-quality replacement parts	-	+
	Most reliable transportation for inbound deliveries	-	+
	Close relationships with suppliers	-	+

On the other hand, there are various studies investigating competitive strategies and how a specific function within a firm can assist in gaining competitive advantage. For

instance, empirical studies tested the link between human resource strategies within a firm and ways to contribute towards the development of successful competitive strategies (i.e. Heijltjes et al., 1996; Sanz-Valle et al., 1999; Guthrie, 2002; Panayotopoulou et al., 2003; Chan et al., 2004; Michie & Sheehan, 2005; and Katou & Budhwar, 2006). Similarly, studies investigating the link to Marketing (i.e. Doyle & Wong, 1998); Information technology and systems (Floyd & Zahra, 1990; Daniels, 1998); Operations (Schroeder et al., 1995; Maslen & Platts, 1997; and Chan, 2005); Logistics (McGinnis & Kohn, 1998).

Albeit, there are studies investigating the generic strategies either based on various strategic variables or within an area of the primary or secondary value chain activities there are no empirical studies linking the overall competitive strategy formulation with the value activities. This thesis, by introducing the value chain framework in the proposed competitive strategy "framework" bridges the gap and contributes too knowledge in two ways: (i) investigates the elements of each strategy based on a firm's activities that add value and thus demonstrates the synthesis of successful competitive strategies; and (ii) covers the 'missing link' between the formulation of competitive strategies and those activities that add value within a firm.

2.6.4 The Role of Combined Competitive Strategies

Porter's generic strategy framework has been studied extensively and therefore it has generated a great deal of debate. Numerous theoretical and empirical studies were introduced with the purpose of establishing the validity of Porter's framework within a number of sectors and industries. Although Porter's typology is widely accepted, it has been extensively criticised in relation to the formulation of competitive strategies.

Porter claims that generic strategies should be employed in their pure form and not a combined one.

Various empirical studies have supported Porter's typology. For instance, Hall (1980) studied 64 'superior performers' in eight basic industries (the top two performers in each one) and concluded that most of them exhibited a single-minded strategic direction with the purpose of achieving one of the following two competitive positions within their industries: (i) the lowest cost position relative to competition, but with an acceptable delivered quality and a pricing policy with the purpose of gaining volume and market share growth; and (ii) the highest product/service/quality together with both an acceptable delivered cost structure and a pricing policy to gain margins sufficient to fund re-investment in product/service differentiation. Similarly, Hambrick (1983b) examined high profit strategies in mature capital goods industries (164 firms) and concluded that all three generic strategies appeared to be pursued amongst high-profit clusters of firms. Dess & Davis (1984) in their study of 19 firms within the paint industry identify that firms choosing a single generic strategy will create a higher performance compare to those firms characterised as 'stuck-in-the-middle'.

Furthermore, Robinson & Pearce (1988) in a cross-industry study found that firms, which pursued inconsistent strategies, were underperformers. Likewise, Bamberger (1989) in his study of 1135 firms from clothing, food and electronic industries confirmed Porter's classification. In addition, Cronshaw et al. (1990) used the PIMS database and came to the conclusion that companies employing a mixed low cost and differentiation strategies perform poorly because of lack of strategic clarity.

Green et al. (1993) reached similar conclusions by examining Porter's typology in Portugal in 68 of the largest 500 manufacturing companies and indicated the usefulness of Porter's typology in depicting the strategic orientation of manufacturing firms. Marques et al. (2000) surveyed 12 large manufacturing firms from Portugal's glass industry, concluding that companies that had a higher return on equity pursued a cost leadership strategy based on efficiency of production and a cost leadership strategy derived from production innovation. Similarly, Silva et al (2000) applied Porter's typology in 43 firms in the Portuguese manufacturing industry proving the effectiveness of differentiation as a preferred strategic orientation. In a more extended study (in Japanese, German and American firms operating in the US) conducted by Shah et al. (2000) it was found that Japanese firms apply low cost and perform better than US and German companies that apply a 'stuck in the middle' strategy.

More recent studies by Cater & Pucko (2005), investigate Porter's generic strategy framework in relation to 225 Slovenian firms within different industry settings. The authors reveal that the average financial performance of groups of firms (SBUs) with different corporate strategies differs significantly between these groups: (i) firms that are 'stuck in the middle' achieve a significantly worse financial performance than firms with any one of the suggested four generic business strategies; and (ii) firms with a (focused) differentiation strategy perform slightly better than firms with a (focused) cost leadership strategy.

Despite the evidence from the above studies, Porter's assertion that the generic strategies are mutually exclusive has provoked extended criticism and has been questioned on both theoretical and empirical fronts (Parnell, 1997). As early as in the mid-80s, Coyne (1986) stated that lower cost will allow companies to gain significantly

higher margins (referred as business advantage); however, such a strategy will not permit firms to gain competitive advantage. Companies will have to re-invest the additional profits generated by lower costs into enhanced product quality, competitive prices, advertising activity, and any other capacity that increases availability (Coyne, 1986).

Phillips et al. (1983) in their empirical study using the PIMS database found that of the six types of businesses they studied, 'relative product quality' exerted a beneficial effect on 'relative direct cost' position via market share. In other words, there was a significant and positive relationship between differentiation and market share. Because increased market share enables the firm to reap scale economies, this study suggests that differentiation may be one way of establishing an overall low-cost position. Similarly, White (1986) investigated 69 business units by using the PIMS database and produced similar findings. White (1986) found that 19 of the 69 units had a competitive advantage based on a combination of both low cost and differentiation (pure cost, pure differentiation, and no-competitive strategies were identified too). However, his results suggest that business units that successfully combined both low cost and differentiation had the highest return on investment.

Miller & Friesen (1986a/b) examine the strategic clusters emerging from a taxonomy of consumer durable business (PIMS) to Porter's generic strategy framework. They identify six clusters that utilised Porter's theory and demonstrated strengths of differentiation, low cost, or both (combined strategic variables). In addition, their study investigated four clusters that did not have any characteristics of generic strategies with low performance. Miller & Friesen (1986a/b) conclude that successful clusters possessed complementary elements of both differentiation and cost leadership

An empirical study carried out by Yamin et al (1999) on 214 Australian manufacturing companies indicates that companies which combine both low cost and differentiation strategies or low cost strategy alone recorded significantly higher mean scores for both financial performance and financial management than any other groups. In addition, Yamin et al (1999) infer that companies pursuing "effective multiple strategies" as well as cost leadership are more closely associated with market effectiveness compared to any other groups. Wright et al. (1991) studied Porter's generic strategies in the USA's screw machine products industry (56 firms where more than 60 per cent were small businesses) and inferred that companies employing combination strategies had the highest performance. Those using a differentiation strategy had the second lowest performance and businesses utilising a low cost strategy had the lowest one (White et al., 1991).

Strategic specialisation may cause inflexibility and narrow an organisation's vision by creating serious gaps in the product offerings, customer needs, and competitors' ability to react (Miller, 1992). As a result, competitors may be able to imitate a single strategy more easily than a combined one (Miller, 1992). A 'better and cheaper' concept has been introduced by Partridge & Perren (1994) to explain that a firm's products must possess core attributes in addition to customer services and branding above the lowest common denominator with varying cost bases.

Lau (2002) in his empirical study of 382 US computer and electronics firms identifies that higher product quality and lower production costs are the most important competitive factors. In addition, Lau (2002) infers that the correlations of these two competitive factors and sale growth and profitability performance measures are not statistically significant. The study recommends that for a firm to achieve and sustain

competitive advantage high quality and low costs are not adequate. Firms must exploit innovative practices and advanced manufacturing technology. Kim & Lim (1988) study companies in the Korean electronics industry and conclude that differentiators also employed cost leadership strategies, and cost leaders employed significant elements of differentiation. In the cluster analysis, the focus strategy was not employed by companies and "the stuck-in-the-middle" strategy emerged. Last but not least, the authors conclude that companies with the highest performance are those combining both differentiation and cost leadership strategies, suggesting the viability of an integrated strategy.

Dess et al. (1995) examine integrated strategies at international, corporate and business levels and supported the relationship between implementation of an integrated strategy and above-average earnings. Moreover, Helms et al. (1997) investigated competitive strategies and business performance in the adhesives and sealants industry and found that business units, which compete with the low cost and differentiation strategy, have higher Return on Investment than enterprises, which compete by employing a low cost or differentiation only.

Allen et al. (2007) in their study of 101 Japanese Managers (in various industries and company sizes) investigate current strategic syntheses and the degree to which Japanese management is embracing "The Porter Prize" in Japan They conclude that Japanese companies mainly apply cost leadership, and to a lesser degree employ a product differentiation strategy, and none of the emerging strategic factors appeared to represent a focus strategy. In their sample, they identify that Japanese companies utilise non-Porter strategies such as supply chain collaboration and extensive training practices. In addition, Allen et al. (2007) claim that some firms reported using strategic practices that

fit into multiple strategic factors as few real world organisations implement pure strategies.

Helms et al. (1997) in their study investigate SMEs within the adhesives and sealants industry in USA; they identified a strategic group utilising a combination of both low cost and differentiation strategies. Companies within this cluster emphasise differentiation by stressing product R&D, advertising expenditures, and charging high prices. In addition, companies have been successful in maintaining low costs, since they have high capacity utilisation, low manufacturing expenses and relatively low direct costs (Helms et al., 1997).

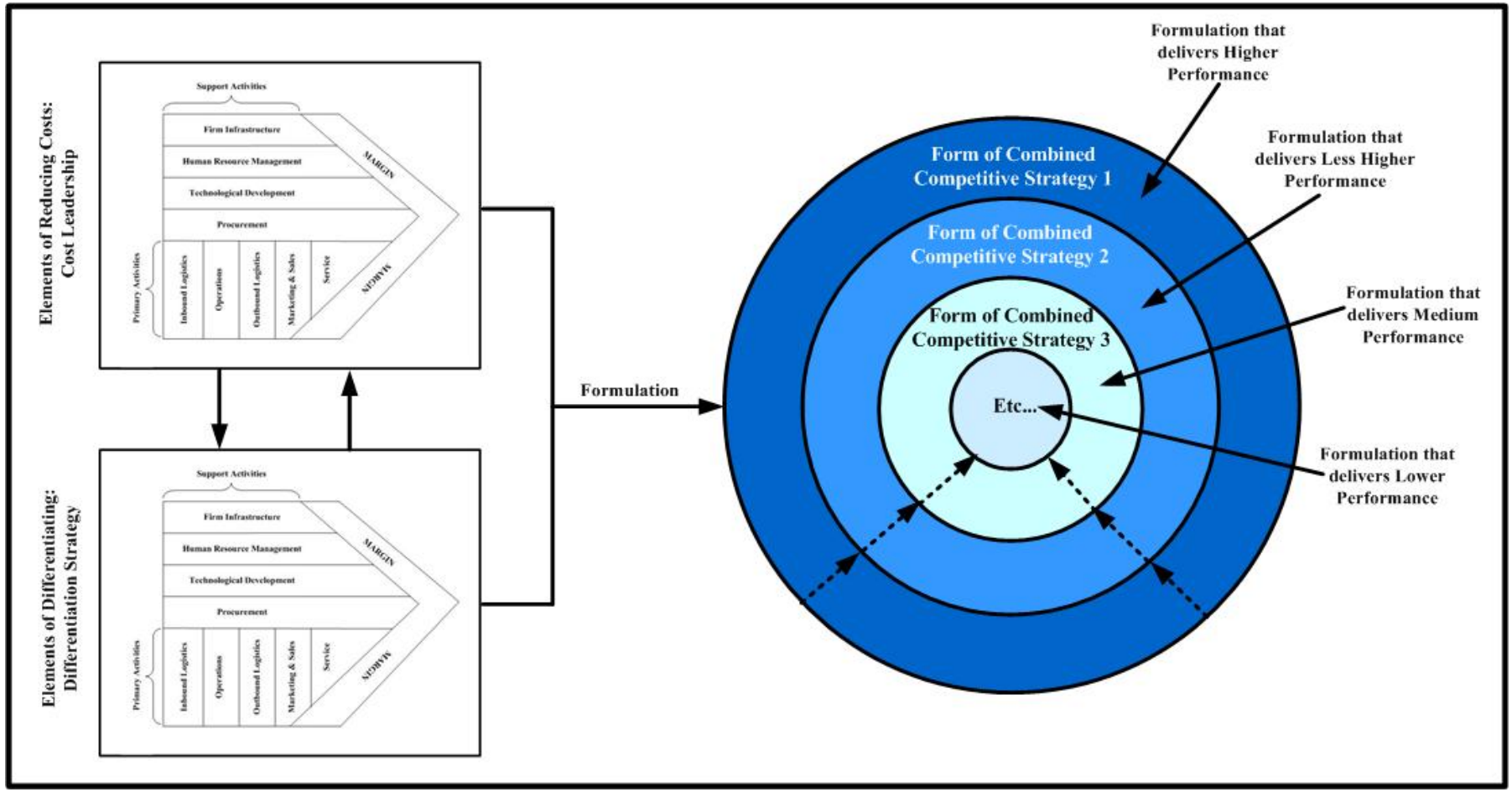
Miller & Dess (1993) demonstrate that Porter's typology does not accurately portray strategy-performance relationships and they found that not only are combinations of the generic strategies possible, but that those combinations are also profitable, especially a combination of low cost and high differentiation. Empirical studies from White (1986), Wright et al (1991); and Yamin et al (1999) indicated that Porter's logic is inconsistent in relation to the use of multiple generic strategies and hence there is a positive relationship between combined strategies and company performance. Chatterjee (1998) concludes that companies need to concentrate on differentiating their products and at the same time, becoming as efficient as possible in their internal operations without negatively affecting their differentiating efforts. Chatterjee (1998) states that if firms want to achieve competitive advantage they need to employ a combination of strategies. Moreover, he states that companies need to eliminate any differentiating efforts that detract value (or add no value).

Spanos et al. (2004) in their study examine the impact of firm and industry-specific factors on profitability. Their sample consisted of Greek Manufacturing companies and investigated Porter's applicability based on a modified version of his typology. They conclude that hybrid strategies are clearly preferable to Greek manufacturing firms and state that the more generic strategy dimensions are included in the strategy mix, the more profitable the strategy is, provided that one of the key ingredients is low cost. In addition, companies found employing a single generic strategy appear to produce below average results, and are less profitable even when compared with firms having no clear strategy.

Based on the previous examination of the current empirical literature, there is supportive evidence that Porter's generic strategies should be employed in a combined form rather than as pure. As already explained in Chapter One, the main goal of this thesis is to provide competitive strategies that lead to higher performance for firms. This thesis contributes to knowledge by integrating in the new theoretical framework forms of combination strategies which result to higher performance.

The whole concept is illustrated in *Figure 2.4* and shows the integration of a combined value chain with forms of combined competitive strategies. The diagram in *Figure 2.4* demonstrates as well that successful competitive strategies can take various forms. In addition, some of the forms of combined competitive strategies can be more successful than others in relation to a firm's performance. The forms of combined competitive strategies are represented in a circular format (wheel representation) to denote the importance of flexible strategic syntheses in a continuous and rapidly changing worldwide environment.

Figure 2.4: An Integrated Framework of Combined Value Activities Leading to Forms of Combined Competitive Strategies



2.6.5 Firm Performance

Measuring the success of various typologies in order for companies to gain competitive advantage and superior performance is a central issue in the field of strategic management (McGee et al., 2005). Yet, there is no consensus on the appropriateness of various performance variables and measures (Venkatraman & Ramanuajam, 1986; Beal, 2000; Parnell, 2002). Beal (2000) states that the complexity of performance does not assist strategy researchers to appropriately identify and employ valid performance variables to empirically examine in relation to strategy formulation.

Moreover, there is a variety of performance measures used in empirical studies and one can see the dissimilarities that exist. For instance, Dess & Davis (1984) use annual sales growth and return on total assets as variables to measure strategic performance. Parnell (2000) employs three year average of Return on Investment (ROI) and Revenue Growth.

To tackle such diversity in studying performance-strategy related variables, various studies suggested a number of groupings. For instance, Miller & Dess (1993) use two categories of performance measures: profitability and growth. Spanos & Lioukas (2001) employ market positioning and profitability. In addition, the authors introduce 'firm size' as a control variable because it might influence a company's performance. Moreover, Yamin et al. (1999) adopt a broader approach and apply the following categories for performance measures in their study: financial performance, financial management, leverage, and marketing effectiveness.

Thus, it is evident that research studying the strategy-performance relationship employs a variety of variables. In addition, there are studies that utilise only financial measures

to investigate a firm's performance (for instance: Dess & Davis, 1984; White, 1986; Yamin et al., 1999; Jacome et al., 2002). On the other hand, there are researchers (for instance, Miller & Toulouse, 1986; Spanos & Lioukas, 2001; Lumpkin & Dess, 2006) employing a hybrid approach where they combine both financial ('objective') and non-financial ('subjective') variables (Parnell, 2002). Non-financial variables in relation to a firm's performance include stakeholder satisfaction with performance, ethical behaviour, relative performance against competition, relative performance over a number of years in relation to growth or sales, and any other questions in relation to respondents' views on their company performance. The introduction of non-financial variables is considered essential when financial measures cannot provide insight into organisational performance (Parnell, 2002). In addition, such variables can assist researchers when examining the strategy-performance relationship in the SMEs sector (Beal, 2000; Spanos & Lioukas, 2001). Financial measures in relation to a firm's performance in the SME sector is considered a difficult task as it would be difficult to extract or find adequate and reliable information (Dess & Robinson, 1984; Beal, 2000; Spanos & Lioukas, 2001).

To conclude, the researcher will evaluate the firm performance for competitive strategies and value chain activities at the business level. Moreover, a combination of financial and non-financial measures will be utilised to validate the firm performance against the realised strategy. Thus, a hybrid approach will be employed in order to avoid any inaccuracies within firms' financial statements. The various variables will be outlined in Chapter Three.

2.7 Conclusion

In this chapter, a detailed overview of competitive strategies was presented and Porter's generic strategies are demonstrated. Despite the numerous available competitive strategy frameworks in the strategic management field, this thesis employs Porter's (1980) typology to investigate successful strategic syntheses of UK MSMEs. As discussed, Porter was chosen because his framework has been extensively tested, is considered as the dominant paradigm in the competitive strategy field, and has received considerable support.

The examination of the competitive strategy literature identified a number of gaps, such as the importance of taking into consideration the dynamism of the external environment, and KSFs when formulating successful competitive strategies. Another gap is the applicability of Porter's framework within the UK MSMEs, and whether firms employ a single generic strategy (as stated by Porter) or forms of combination strategies (as it is supported by various empirical studies). Finally, Porter introduced the concept of value chain analysis with the purpose of assisting firms to formulate successful competitive strategies. Yet, there are no studies investigating in depth how different functions of a company contribute towards the development of a competitive strategy with the purpose of gaining advantage over rivals (as described in previous sections, there is little research which examines only one function in relation to competitive strategy).

To bridge those gaps, this study proposes a theoretical framework, which builds upon Porter's typology of generic strategies and value chain activities, for formulating competitive strategies. As a result, it will be tested for its employability and usability by UK's MSMEs. The proposed framework attempts to identify syntheses of successful

competitive strategies which are based on a combination of both cost leadership and differentiation strategies. In addition, it integrates value chain activities with the generic strategies with the purpose of diagnosing, formulating, and implementing competitive strategies that deliver high firm performance. Moreover, it brings the role of the external environment with the form of KSFs to support the development of competitive strategies. Finally, the new theoretical framework will be tested for its validity in relation to firm performance based on a number of variables, which will be presented later on in this thesis.

The next chapter will discuss the hypothesis, methodology and research design with the purpose of bridging the gap in the competitive strategy literature and contributing to knowledge with the introduction of a new theoretical framework.

Chapter 3

METHODOLOGY AND RESEARCH DESIGN

3.1 Introduction

The previous chapters demonstrated the characteristics and synthesis of competitive strategy for firms, which desire to gain competitive advantage over their rivals. Moreover, a critical evaluation of the literature review was carried out with the purpose of identifying gaps within existing competitive strategy research. This thesis will bridge those gaps and contribute to knowledge by proposing a theoretical framework, which integrates the employability of competitive strategies with the dynamism of the external environment and value chain activities.

This chapter outlines the hypothesis to be tested, variables to be analysed, reasons for choosing UK's SMEs Manufacturing sector (MSMEs), the methodological approach selected, and finally the research design employed to address the issues raised by the critical analysis.

3.2 Measures of Study

The purpose of this study is to investigate the competitive strategies of UK MSMEs. Based upon the analysis carried out in Chapter Two, this thesis employs three types of measurement in the study: strategy variables, value chain variables, and performance variables.

The following *Table 3.1* highlights key studies investigating Porter's (1980) generic strategies and highlights the number of strategic variables used and their

conceptualisation. From the table it is noticeable that studies employ a variety of strategic variables that differ.

Table 3.1: Variation in Strategic Variables used to Test Porter's Theory

Author	Industry Setting	Number of Strategic Variables used	Variables are derived from
Allen & Helms (2006)	various industries	25	A number of previous studies
Allen et al. (2007)	various industries	25	Porter (1980, 1985) Parker & Helms (1992)
Beal & Yasai-Ardekani (2000)	various industries	23	Miller & Dess (1984) Miller (1998)
Dess & Davis (1984)	Paint & Allied products	21	Construct their own – test it and validate it
Čater & Pučko (2005)	Various industries	5	A number of previous studies
Green et al (1993)	Large Manufacturers	21	Dess & Davis (1984)
Helms et al. (1997)	Adhesives & Sealants	7	A number of previous studies
Jacome et al. (2002)	Porcelain industry (Large)	27	Green et al. (1993)
Kim & Lim (1988)	Electronics Industry	15	A number of previous studies
Lau (2002)	Electronics & Computer manufacturers	9	A number of previous studies
Lumpkin & Dess (2006)	various industries	8	Miller (1986)
Marques et al. (2000)	Crystal Glass	21	Dess & Davis (1984)
Miller & Dess (1993)	Various	13	Prescott (1986) MacMillan & Hambrick (1980)
Miller & Friesen (1986a,b)	Consumer Durable	20	Hambrick (1983)
Miller & Toulouse (1986)	various industries	10	Miller (1983)
Nayyar (1993)	Consumer product market	25	Kim & Lim (1988) Miller (1988) Robinson & Pearse (1988) Dess & Davis (1984).
Shah et al. (2000)	Manufacturers (large)	13	'No reference is made'
Silva et al. (2000)	Mold Industry	17	Dess & Davis (1984)
Spanos & Lioukas (2001)	Single business units various manufacturing firms	11	Miller (1988) Dess & Davis (1984)
Spanos et al. (2004)	Manufacturers	11	A number of previous studies
White (1986)	Various	4	A number of previous studies
Wright et al. (1991)	Screw Machine products	7	A number of previous studies
Yamin et al. (1999)	Manufacturers	42	Miller (1986) Miller & Friesen (1986) White (1986). Porter (1985

Thus, there is not a consensus of which variables should be employed to investigate generic strategies. To begin with, a number of studies have used variables drawn from the PIMS database (Miller & Friesen, 1986a; White, 1986; Miller & Dess, 1993). Yet,

in these studies the number of variables used is different. For example, Miller & Dess (1993) used 13 competitive strategy variables based on previous PIMS-based studies (Anderson & Paine, 1978; Hambrick, 1980; Prescott, 1986), whilst Miller & Friesen (1986a) draw upon the work of Hambrick (1983) in testing 20 variables in relation to competitive strategies. Correspondingly, various studies examine competitive strategy variables based upon the synthesis developed by Miller & Dess (1984). For instance, Spanos & Lioukas (2001) employ strategic variables from Dess & Davis (1984) and Miller (1988) to examine the applicability of the generic strategies in the Greek manufacturing sector.

Similarly, Marques et al. (2000) employ 21 strategic variables as used by Dess & Davis (1984) to test Porter's typology in the Portuguese Crystal industry. Silva et al. (2000) used 17 strategic variables as used by Dess & Davis (1984) to test generic strategies in the Portuguese mould industry. Nayyar (1993) in his study testing the consumer product market in US employed 25 strategic variables based on Kim & Lim (1988), Miller (1988), Robinson & Pearse (1988), and Dess & Davis (1984). Another study by Beal & Yasai-Ardekani (2000) used 23 strategic variables as per Miller & Dess (1984); and Miller (1988). In addition, Allen et al. (2007) developed their 25 strategic variables based on Porter (1980, 1985) and Parker & Helms (1992).

Measures of Porter's (1980) generic strategies (strategic variables) were derived and adapted mainly from Dess & Davis (1984) as the majority of studies (refer to *Table 3.*1) employed their competitive strategy variables to measure. The researcher examined a number of other empirical studies (Miller & Friesen, 1986a; Miller & Toulouse, 1986; White, 1986; Green et al., 1993; Yamin et al., 1999; Marques et al., 2000; Allen & Helms, 2006; Allen et al., 2007) to establish the validity of these measures in studies

investigating the manufacturing sector. As a result, a number of variables were amended with the purpose of providing a clearer statement to UK MSMEs managers. For instance, just simply asking about advertising as means to gaining competitive advantage was replaced with "investment in advertising as a tool to approach customers". Similarly, a variable such as "Customer Service" which is quite vague and was defined as "least important" in a number of studies (i.e. Dess & Davis, 1984) was rephrased as "provision of services that meet competitive quality standard" with the purpose of providing a clearer statement to UK MSMEs Managers.

Similarly, 'innovation in manufacturing process' can indicate a strategy for cost reductions by introducing automation in manufacturing technology and at the same time for differentiation by providing unique products which are different from rivals (Grant, 1996; Campbell et al., 2002). Thus, for clarity purposes the strategic variable of innovation has been re-stated. Additionally, variables such as 'reputation', 'forecasting market growth', and 'minimum use of outside financing' were excluded from the list as they have not been confirmed in other studies (Green et al., 1993; Yamin et al., 1999; Marques et al., 2000; Allen & Helms, 2006; Allen et al., 2007).

Contrary to previous empirical research on competitive strategy, this thesis has adopted a different stance in relation to the chosen strategic variables. Previous studies (for instance, Kim & Lim, 1988; Nayyar, 1993; Marques et al., 2000; Silva et al., 2000; Spanos & Lioukas, 2001; Allen et al., 2007) have employed competitive strategy variables the majority of which relate to a differentiation strategy and to a lesser degree to cost leadership. For example, Kim & Lim (1988) employ 15 strategic variables of which 12 relate to differentiation strategy and only three of those to cost leadership. Nayyar (1993) used 19 differentiation variables and 6 cost leadership; Marques et al.

(2000): 15 differentiation and 6 cost leadership variables; Silva et al. (2000): 13 differentiation and four cost leadership variables; and Spanos & Lioukas (2001): 8 differentiation and 3 cost leadership variables.

Based on the review of the previous empirical studies in relation to chosen competitive strategy variables, it appears that their emphasis is given on differentiation strategy rather than cost leadership. However, this asymmetrical ratio contradicts Porter's (1980, 1985) original view which he stated that in every value chain activity, firms can develop competitive advantage by choosing either differentiation or low cost strategy. This thesis in an effort to avoid potentially biased responses from participating firms adopts 24 strategic variables of which 12 of those relate to differentiation strategy and another 12 to cost leadership.

The researcher adopts this approach for two reasons: (i) to avoid biased responses from participants in relation to either differentiation or cost leadership strategy; and (ii) to examine whether this thesis will produce different empirical evidence compared to a number of previous studies. It is possible, that the adoption of a symmetrical ratio of variables (12:12) could potentially lead to the identification of different characteristics of competitive strategies. This however, should be taken into account when comparing the findings of this thesis with a number of previous studies.

Based on the analysis presented, differentiation-based competitive strategy was measured using the following firm activities: (1) development of brand strategy and name; (2) investment in sales promotion as a tool to approach customers and increased profits; (3) offering of a broad range of products; (4) provision of sufficient facilities to support the quality of services; (5) investment in advertising as a tool to approach

customers; (6) making conscious efforts to differentiate services and products from competitors; (7) provision of services that meet competitive quality standards; (8) continuous maintenance and use of loyalty schemes; (9) performing of incremental improvements in coordination & organisational structure; (10) continuous developments of new products; (11) continuous improvement of supplier logistics in terms of quality; and (12) focusing on improving product packaging.

Similarly, cost leadership strategy was measured by employing the following firm activities: (1) identification of under-performing areas in order to cut costs; (2) charging of lower prices than competitors (3) focusing on inventory management to improve stock control; (4) reduction of labour input through mechanisation & automation; (5) development of a continuous improvement process in employees' skills; (6) achievement of an increased precision through the production lines by reducing defects; (7) focusing on product design techniques that economise on costs of materials; (8) possession of a process to utilise automation technologies; (9) continuous exercise of tight cost controls and attention to detail; (10) improvement of supplier logistics in terms of cost control; (11) continuous improvement of supplier logistics in terms of delivery/lead time; and (12) focusing on product design techniques that facilitate automation.

In addition to competitive strategy variables, this thesis added nine variables relating to value chain activities. These variables provide an indication of whether firms utilise value activities with the purpose of formulating competitive strategies: (1) Inbound Logistics; (2) Operations; (3) Outbound Logistics; (4) Marketing & Sales; (5) Service; (6) Infrastructure; (7) Human Resource Management; (8) Technology Development; and (9) Procurement.

Another set of variables identified in previous chapters relates to performance variables. Those variables demonstrate the fit between firm performance and chosen strategy. This fit relates to the identification of those competitive strategies that deliver higher or lower performance than others. Based on the discussion in Chapter Two, there are mainly two categories of performance: objective (financial data) and subjective (respondents asked for estimated performance). This thesis will employ the following variables: **(i)** Change of Market Share (for the last 5 years); **(ii)** Percentage Change of Turnover Year 2003 vs. Year 2002; and **(iii)** Percentage Change of Net Operating Profit Year 2003 vs. Year 2002.

Thus, the chosen variables included in this study were selected for the following reasons: (i) they have been tested and evaluated by a number of empirical studies (Dess & Davis, 1984; Miller & Friesen, 1986a; Miller & Toulouse, 1986; White, 1986; Green et al., 1993; Yamin et al., 1999; Marques et al., 2000; Allen & Helms, 2006; Allen et al., 2007); (ii) they are associated with attributes relating to strategic profiles and more than industry specifications (Porter, 1980; Porter, 1985; Miller & Friesen, 1986a,b; White, 1986; Helms et al., 1997); (iii) they are subject to managerial control; and (iv) they allow for group categorisation of firms studied in relation to strategic synthesis they employ to be competitive (cost leadership, differentiation, or mixed).

3.3 Research Hypothesis

The main purpose of this research project is to examine the types of business-level strategies that UK MSMEs employ with the purpose of gaining a competitive advantage. As was addressed in Chapter Two, there is limited research carried out in relation to competitive strategies of MSMEs. Specifically, there are a limited number of studies investigating SMEs' competitive strategy (Helms et al., 1997; Beal & Yasai-

Ardekani, 2000; Upton et al., 2001). In addition, only a small number test Porter's strategic typology in relation SMEs' competitive strategy (Dess & Davis; 1984; Miller & Toulouse, 1986; Helms et al., 1997; Beal & Yasai-Ardekani, 2000; Upton et al., 2001).

Moreover, within the competitive strategy literature the majority of studies test generic strategies based on the form of differentiation and cost leadership alone. They exclude the possibility of a combined strategic synthesis as a typology (Hall, 1980; Hambrick, 1983b; Dess & Davis, 1984; Green et al., 1993; Marques et al., 2000). Even if their results support the fact that there is a positive relationship between combined strategy and performance, all their investigation is based upon variables relating to pure generic strategies and not upon other forms of strategic synthesis. A combination strategy could have different characteristics than those proposed by previous studies (Miller & Friesen, 1986a/b; Kim & Lim, 1988; Wright et al, 1991; Parnell, 1997; Yamin et al, 1999; Lau, 2002; Allen et al., 2007) and Porter's initial conceptualisation of generic strategies. The aim of this study therefore is to seek to bridge this gap by investigating MSMEs' successful competitive strategies and examining the strategy-performance relationship.

Based on previous studies (Hall, 1980; Hambrick, 1983b; Dess & Davis, 1984; Miller & Friesen, 1986a/b; Kim & Lim, 1988; Wright et al, 1991; Green et al., 1993; Parnell, 1997; Yamin et al, 1999; Marques et al., 2000; Lau, 2002; McGee et al., 2005; Allen et al., 2007) an important element in competitive strategy research is the link between strategy chosen and firm performance. Yet, there is no consensus on the appropriateness of various performance variables and measures (Venkatraman & Ramanuajam, 1986; Beal, 2000; Parnell, 2002). The main reason for this is complexity of defining and measuring firm performance (Beal, 2000). Various studies attempted to

tackle the performance-strategy issue by suggesting a number of groupings based on financial measures (for instance: Dess & Davis, 1984; White, 1986; Yamin et al., 1999; Jacome et al., 2002) or a combination of both financial and non-financial variables (i.e. Miller & Toulouse, 1986; Spanos & Lioukas, 2001; Parnell, 2002; Lumpkin & Dess, 2006).

Studying the link between performance and strategy in the SMEs sector is considered a difficult task as it would be difficult to extract or find adequate and reliable information (Dess & Robinson, 1984; Beal, 2000; Spanos & Lioukas, 2001). Therefore, it is suggested by Beal (2002),Spanos & Lioukas (2001), and Parnell (2002) the use of non-financial variables additionally to financial measures. This thesis, recognising the diversity of performance measures within the competitive strategy literature and difficulty of gaining access to those in the SMEs sector, will utilise a combination of both financial and non-financial measures to examine the strategy-performance link.

This study aims to investigate in what form generic strategies can be employed (combined or single types), and thus identify the preferred syntheses of successful strategic frameworks that result to high firm performance. For this reason, this thesis's null hypothesis predicts the relationship between two variables: Porter's generic strategies and their associated performance at firm level.

H_0: *Within the UK Manufacturing sector, SMEs that formulate and employ Porter's framework of generic strategies (either differentiation or cost leadership) in their pure form are not associated with higher firm performance.*

3.4 UK Manufacturing SMEs

The main focus of this thesis is the investigation of competitive strategies for Small to Medium-Sized Enterprises (SMEs). According to Levy & Powell (2005) defining the SME sector and in particular small businesses is a difficult task, because there are a plethora of definitions and no consensus of how a small firm could be defined (Storey, 1994; Burns, 2001). The main criteria for defining the SMEs sector are the number of employees, turnover and the balance sheet total (Burns, 2001; Levy & Powell, 2005).

There are a number of definitions regarding SMEs: (i) *OECD definitions* which use employee numbers as a criterion for classification: micro-firms with less than 20 employees; small firms with employees between 20–99; and medium with 100–299 employees; (ii) the US definition considers all firms employing fewer than 500 employees as SMEs; and (iii) the European Commission provides a new definition for SMEs (Recommendation 2003/361/EC): micro-firms with less than 10 employees; small firms with less than 50 employees; and medium firms with less than 250 employees.

This thesis will employ the definition provided by the European Commission (Recommendation 2003/361/EC) for the following reasons: **(i)** The US definition is too broad for most countries, where the great majority of firms employ fewer than 250 people (Powell, 2005); **(ii)** Additionally, the organisational characteristics of firms with 500 employees tend to be too similar to large firms with formal structures for this to be a useful definition for research into SMEs (Powell, 2005); **(iii)** the EU definition makes possible a more precise delimitation of large companies by lowering the number of employees to less than 250 (Loeher, 2000); and **(iv)** as previous EU uses this definition to standardise the SME concept throughout the nations within the union. Thus, if in the

future a similar study wishes to investigate competitive strategies of SMEs and test the proposed framework in another EU country there will be a commonality in the study setting in terms of the firm size.

UK MSMEs play a significant role in the UK manufacturing sector and economy. Based on the statistics published online by BERR, at the beginning of year 2007, there were 1,218,725 companies in UK (both manufacturing, services, and other sectors and excludes sole traders and self-employed as they consist of one-employee companies) employing approximately 18.9 million people and generated a turnover of approximately £2.5 billion. Thus, MSMEs contribute to the UK employment by 8.05 per cent and turnover by 6.42 per cent. Within the manufacturing sector itself, it is evident that MSMEs employ the 47.23 per cent and have a turnover of 34.38 per cent.

Despite the importance of the MSMEs in the UK economy little of the literature has focused on the specific situation of SMEs (O'Donnell et al., 2002). Specifically, there is a limited number of studies investigating SMEs' competitive strategy (for instance: Dess & Davis; 1984; Davig, 1986; Miller & Toulouse, 1986; Chaganti, 1987; Rugman & Verbeke, 1987; Helms et al., 1997; Beal & Yasai-Ardekani, 2000; Upton et al., 2001). In addition, only a small number test Porter's strategic typology in relation SMEs' competitive strategy (for instance: Dess & Davis; 1984; Miller & Toulouse, 1986; Helms et al., 1997; Beal & Yasai-Ardekani, 2000; Upton et al., 2001). Similarly, Gurau (2004) tests Porter's (1985) value chain framework in relation to 30 UK Biopharmaceutical SMEs with the purpose of creating the best possible competitive advantage. His results indicate that the match between the strategic focus and the competitive advantage of the firm influences the performance of the firm in the value-

added chain. However, this study is limited, as it does not investigate in detail the primary and secondary activities originally defined by Porter (1985).

It is important to emphasise that SMEs are not smaller versions of larger firms (O'Regan & Ghobadian, 2004) and their needs and decision making processes differ significantly (Shrader et al., 1989). There are differences such as limited resources, lack of specialist expertise (Carson, 1985), reliance on a few key customers (Venkatraman et al., 1990) and inability to influence the threats of the external environment (Cromie, 1990). Small organisations frequently suffer from "resource poverty" and are more vulnerable to mistakes and variations in their economic performance than larger ones (Martin & Staines, 1994). Small firms are also more likely to engage in informal management practices than to adopt sophisticated planning and control techniques for good reason (Martin & Staines, 1994). For example, in a recent study on the use of formal strategic planning in SMEs, McKiernan & Morris (1993) provide some support for those who challenge the dilution of large company techniques like formal planning for use in small firms. Where they exist in small firms, planning and control techniques usually involve short time horizons, are informal, irregular and not comprehensive.

Small firms differ from larger organisations in various ways, which have implications for their strategic approach and direction (Lee, 1995 and Jones, 2003). In particular, an important role is played here by the type of entrepreneur who is attracted to starting his/her own firm, his/her background, competences and aspirations, his/her knowledge of markets and his/her strategic objectives (Lee, 1995). Additionally, smaller firms have less influence in the market, are often under-capitalised and in certain industries are affected by the policies of larger firms (Lee, 1995). Hence the human and material resources which they have at their disposal and their market opportunities often

constrain strategic choices in ways which differ from situations in larger organisations (Lee, 1995 and Jones, 2003).

Hitt et al. (1996) found that management decision-making and organisational structure in SMEs revolves around the preferences and interests of owner-managers, who take all the major decisions and monitor all activities. According to Marsden & Forbes (2003), there must a distinction between the owner-managers and their chosen lifestyle. There are owner-managers who have no wish to grow their business and entrepreneur managers who are running a small firm at the start-up phase. There are as well other owner-managers who are more educated, more experienced, or gifted in some ways than others, which results them in seeking a better competitive strategy. According to Storey (1994), many small business owners seek only to obtain a minimum level of income rather than maximising sales or profits as there is no concern in reporting to their actions to external shareholders. The motivation of owners and managers is as well another important factor to consider when analysing variations in the performance of small firms (Smallbone et al., 1995).

According to Jones (2003), SMEs are not homogenous as there are differences not only between owner-managed small firms with 10-20 employees, and medium sized with over 200 employees but as well between large and multidivisional enterprises. Large corporations (above 249 employees) tend to have formalised structures with professional managers in each of key functional areas, who are accountable to a board of directors and shareholders (Jones, 2003). On the contrary, the majority of SMEs will have one individual or a very small team that is responsible for the whole range of functional activities (Jones, 2003).

Harris et al. (2000) found that strategy-making in small firm is emergent, adaptive and based on personal relationships. Jennings & Beaver (1997) suggest that one of the main reasons is that small firms gain competitive advantage accidently or circumstances allow them to be competitive. According to the authors, the competitive advantage in the smaller firm often arises accidentally as a result of particular operating conditions surrounding the enterprise. Similarly, McGowan et al. (2001) state that small firms develop strategies not in planned or deliberate ways but rather 'in a more haphazard, largely accidental fashion'. Mintzberg et al. (1998) discussing the importance of strategic planning and the role of a formal planning effort in developing strategies, indicate that strategies could be traced back to a variety of little actions and decisions made by all sorts of different people sometimes accidentally with no thought of their strategic consequences. Mintzberg & Walters (1985) defined those realised patterns or consistencies of accidental strategies as emergent contrary to those patterns of strategy that are deliberate.

Emergent strategies from within the organisation could play an important role for SMEs. However, the nature of emergent strategies might be differently interpreted in small versus large firms: In small firms emergent strategy formation is strongly related to the personality of the owner, who, in turn, is able to quickly capture new opportunities in dynamic environments (Hall, 1995). This could be also interpreted as responsive actions by the top managers in the course of 'logical incrementalism' (Quinn 1980).

The main stream of research on SMEs has focused on various areas other than the synthesis of their competitive strategy, for instance, various studies investigating success factors for SMEs (Moore & Longenecker, 1987; Cook, 1992); researching the

prescription of a strategic planning process (Waterworth, 1987; Scarborough & Zimmer, 1991; Bhide, 1994; O'Regan & Ghobadian, 2002); examining SMEs' day-today operations (Bennett, 1989; Tarkenton & Boyett, 1991); defining the different innovation types (Salavou et al., 2004; Oke et al., 2007) and barriers (McAdam et al., 2004); identification of performance measures for SMEs (Sousa et al., 2006) and the use of benchmarking as tool for competitive analysis (Monkhouse, 1995; Cassell et al., 2001; McAdam & Kelly, 2002; St-Pierre & Raymond, 2004); investigation of the characteristics of high growth SMEs (Smallbone et al., 1995); the drivers for SMEs for going global (Winch & Bianchi, 2006) and the effects of internationalisation on SMEs performance (Lu & Beamish, 2001); other studies examined the problems which face small exporting firms (Kathawala et al., 1989; ; Katsikeas & Piercy, 1991; Seringhaus & Botschen, 1991; Katsikeas & Piercy, 1993; Graham, 1999); and the use of information with the purpose of gaining competitive advantage (Beal, 2000; Burke & Jarratt, 2004).

To summarise and based on the discussion as per the preceding paragraphs, it is important to stress the difficulty of investigating the strategic formulation within SMEs. Put simply, SMEs are not homogenous. For example, the broad definitions relating to SMEs (as stressed at the beginning of this section) cover firms ranging from only one employee (micro firms), to companies with 40 employees (small firms) and enterprises with 200 employees (medium sized firms). However, a firm with few employees is likely to have a distinct approach to strategy development, perhaps partly deriving from a smaller resource base and differences in owner expectations when compared to larger organisations. Moreover, SMEs tend to have less formalised structures than larger organizations (O'Regan & Ghobadian, 2002). As a result, one person (or a very small team) is responsible for the whole range of functions within SMEs. Hence, the

definition and only of an SME generates a number of issues when investigating their strategic synthesis.

Another important influence upon the strategy research within SMEs relates to the possibility that SMEs take strategic decisions on an accidental or irregular basis, depending more heavily upon the owner-entrepreneur aspirations and thought processes than arising from more formalised models associated with larger organisations. The evidence from previous studies (i.e. Jennings & Beaver, 1997) suggests that there is no consistently clear and demonstrable link between what SMEs intend to do (or claim to do so) and what actually happens in practice. This degree of unpredictability and spontaneity has, however, implications when examining the formulation of competitive strategy within SMEs. This is especially the case when investigating the applicability and usability of a framework such as Porter's, RBV, or the proposed framework in this thesis.

As was mentioned in Chapter One, the aim of this thesis is to examine the synthesis of successful competitive strategies within the MSMEs sector and not whether have firms have the right process in place when developing strategic planning. Thus, the researcher acknowledges the above limitations and adopts the approach of measuring competitive strategy synthesis they way it exists (whether accidental, emergent, or responsive) within SMEs participating in this study. However, this approach could potentially influence the interpretation of data and especially when compared to findings from a number of previous studies that have taken into consideration the planning processes of strategy development within SMEs.

In addition and as was discussed in Chapter Two, Porter's framework of generic strategies was selected because of its simplicity and dimensions that are used widely from the business world (Hill, 1988; Kim & Lim, 1988; Miller & Dess, 1993; Kling & Smith, 1995; Ghingold & Johnson, 1998; Miller, 1998; Thompson & Stickland, 1998; Kumar & Subramanian, 1997/98; Silva et al., 2000; David, 2000; Brandenburge, 2002; Thompson & Stickland, 2003; David, 2002; Dess et al, 2004; Wheelen & Hunger, 2004; Allen et al., 2006). Despite the limited research regarding SMEs' and Porter's generic strategies (for instance: Dess & Davis; 1984; Miller & Toulouse, 1986; Helms et al., 1997; Beal & Yasai-Ardekani, 2000; Upton et al., 2001) there is evidence that those firms are considering the formulation of competitive strategies as crucial for their success.

Other frameworks have not been employed extensively by various business (including SMEs) because are difficult to understand, based on Porter's generic strategies, or employ similar to Porter's typology (for instance, Miles & Snow's (1978) 'prospector' and Miller & Friesen's 'innovators' that are similar to Porter's strategy of 'differentiation' (Kumar & Subramanian, 1997/98; Parnell, 2002). Similarly, the investigation of the RBV by definition proves complex mainly because of the lack of resources within the SMEs.

Having taken into consideration the above discussion, the UK MSMEs sector has been selected for several reasons. First, in the last few decades the manufacturing sector has experienced a number of changes, such as rapid technological innovations, increased demand, customer expectations, and short lead times. Second, UK governmental statistics (BERR) indicate that MSMEs play an important role in the economy in terms of employees employed and turnover generated. Third, the strategic behaviour of firms

in this sector have not been empirically examined previously on an extended basis and more specifically in relation to Porter's (1980) generic strategies. In addition, there are no studies examining the link between value chain activities and the formation of competitive strategies. Fourth, private MSMEs were selected because of their dynamic environment and their flexibility to respond to environmental changes. Fifth, the MSMEs sector has been influenced dramatically from globalisation, increased competition and the use of technology.

3.5 Methodology

To test the objectives and hypotheses, this study will be based upon an empirical investigation of the competitive strategies within the UK MSMEs sector. Empirical research focuses on observation through experiments of what is happening and is the dominant element in business and management research (Remenyi et al., 1998).

There are two broad methodological positions in social sciences: positivism and phenomenology. Logical positivism, or empirical positivism, or just positivism is based on ideas of: objectivity (that is, the objective reality of the physical world), scientific method, and empiricism. In positivism the researcher plays the role of an objective analyst and independent of the subject of the research (Remenyi et al., 1998).

According to Remenyi et al. (1998:33), *"positivism emphasises quantifiable observations that lend themselves to statistical analysis"*. As a result, positivist studies are primarily quantitative in nature (Saunders et al., 2000). Empirical science represents the positivist methods, and knowledge is built through a process of deductive logic (Hussey & Hussey, 1997; Saunders et al., 2000). Moreover, hypotheses are developed and tested with experiments; as more and more facts accumulate, they can be used to

construct general explanatory theory (Saunders et al., 2000). Findings are validated when experiments are replicated, yield consistent results, and tested under original conditions and with variations (Lee & Lings, 2008).

Following a positivist research methodology, researchers employ a deductive approach (Saunders et al., 2000; Lee & Lings, 2008) where a conceptual and theoretical structure is developed and then tested by empirical observation (Hussey & Hussey, 1997; Saunders et al., 2000). The main characteristic of this approach is that a study begins with a theory, and then a number of experiments and observations take place in order to test this theory (Hussey & Hussey, 1997; Saunders et al., 2000; Lee & Lings, 2008). As a result, researchers need to develop hypotheses to be tested by a collection of quantitative data (Saunders et al., 2000).

A quantitative approach involves collecting and analysing numerical data and applying statistical tests. This approach plays a confirmatory role in research by studying populations and samples. The explanation of the phenomena happens through the analysis of numerical data. The quantitative approach makes it easier for the researcher to quantify the data and calculate how many people made a particular point (Wilkinson, 2000). The results of quantitative research are presented in the form of descriptive or complex statistics (for instance, tests of significance, correlation, and regression).

The opposite of positivism is phenomenology. Phenomenology is seen as providing the basis for what is generally called Interpretative (or Interpretive) Research where the assumption is that social reality can only be understood through social constructions such as language, consciousness and shared meanings. Interpretive research does not predefine variables, but explores human sense-making in naturalistic settings (Remenyi

et al., 1998). The aim of phenomenology is to perform a basis free or prejudice-free analysis and description of experience. Phenomenology does not deal with the concrete existence of individual things or their characteristics but it does rather with the essence of things. Thus, phenomenology is defined as the science of the essences of things and refers to the meaning of a given fact of experience (Eze, 2006).

Researchers following a phenomenological research methodology employ an inductive approach (Saunders et al., 2000). Inductive *reasoning* typically moves from general truths to specific conclusions. It opens with an expansive explanation (statements known or believed to be true) and continues with predictions for specific observations supporting it (Saunders et al., 2000). Thus, researchers investigating a problem collate all the necessary data and analyse them. As a result of this analysis the theory is formulated (Saunders et al., 2000; Lee & Lings, 2008). In essence, *"theory would follow data rather than vice versa as in the deductive approach"* (Saunders et al., 2000: 88). Thus, the deductive approach builds theory by a collection of qualitative data (Hussey & Hussey, 1997; Saunders et al., 2000)

A qualitative approach is more subjective in nature and involves examining and reflecting on perceptions in order to gain an understanding of social and human activities (Brewerton, 2001). This approach plays a discovery role in research by studying a variety of cases. The examination of these cases takes place through the analysis of narrative data (Brewerton, 2001). The resulting data is presented in the form of quotations or descriptions, though some basic statistics may also be presented.

Both research methodologies (positivism and phenomenology) are based on different research approaches (deductive and inductive) and methods (quantitative and

qualitative). Neither school of thought should be considered as different in their impact on research and generalisability of their findings (Remenyi et al., 1998; Saunders et al., 2000). Both paradigms have strengths and weaknesses and which method is better than the other will depend upon the research questions which have been set in a specific research study (Remenyi et al., 1998; Saunders et al., 2000).

Yet, both of the approaches should not be considered as separate when researching strategic management problems (Hussey & Hussey, 1997; Saunders et al., 2000; Lee & Lings, 2008). According to Saunders et al. (2000:86): *"Of course, the practical reality is that research rarely falls neatly into the positivist and phenomenological camps…Business and management research is often a mixture between the two"*. He continues that research methodologies *"do not exist in isolation and therefore can be 'mixed and matched"* (Saunders et al., 2000:98). Supporting statements were made by Vanderstoep & Johnston (2009) where they state that a mixed methodology 'embraces the best of both qualitative and quantitative approaches'.

Employing 'mixed and matched' approaches has the following advantages: (i) different methods can be used for different purposes in a study (Saunders et al., 2000); and (ii) mixed methods enable triangulation to take place. Triangulation involves reviewing and analysing evidence from multiple sources such that a study's findings are based on the convergence of that information (Erlandson et al., 1993; Yin, 1994). Jick (1979, cited by Cresswell, 1994, p. 174) argued that the strength of the triangulation process lies in its capacity to neutralise any bias inherent in a particular data source, investigator, or method when used in conjunction with other data sources, investigators, and methods. Thus, it allows a cross-check in the responses received by participants (Saunders et al., 2000). Overall, the strength of data triangulation is that it results in a

"thick description" of the phenomenon of interest that would not be possible if fewer data collection strategies had been employed (Erlandson et al., 1993; Hassard, 1993), essentially a case of all the data being necessary but insufficient on their own to explain a phenomenon in a rigorous and credible manner (Johnstone, 2004). (iii) Within a study overlapping and different facets of a phenomenon may emerge and hence, mixed methods could complement and expand its scope and breadth (Cresswell, 1994).

Despite the advantages reported when using mixed methods, there is a long-standing debate over whether it is viable to combine qualitative and quantitative methods in one study (May, 2007). According to May (2007) those against mixing methods argue that qualitative and quantitative methods are based on different philosophical backgrounds that prevent efforts to combine them in a meaningful way. In defense, Bryman (2004), Onwuegbuzie & Leech (2004), and Brannen (2005) state that the argument for combining methods is based on the pragmatic view that there are considerable similarities between qualitative and quantitative methods and that the connections between epistemology/ontology and research method are tendencies rather than definitive connections. Mason (2006) and May (2007) maintain that different methods are complementary and represent different perspectives or levels of reality. To tackle the issue of different philosophical backgrounds and according to Brannen (2005), this thesis analyses the different datasets independently of each other in relation to the aims of this thesis with the purpose of illuminating not only their differences but their similarities.

Another issue with mixed methodology is that can be difficult for a single researcher to carry out both qualitative and quantitative research and to learn about multiple methods and approaches (Johnson & Onwuegbuzie, 2004). According to Johnson & Turner

(2003): "the understanding of the strengths and weaknesses of quantitative and qualitative research puts a researcher in a position to mix or combine strategies". The researcher in the following sections discusses in detail the methods chosen and demonstrates strengths, weaknesses, and the context in which are used within this thesis.

According to Leech & Onwuegbuzie (2010), an important issue with mixed methodology (including pure research methodologies) is the data validation/legitimation step, which involves assessing the legitimation of both quantitative and qualitative data. To overcome this issue, researchers need to focus on the data validation of both methodologies separately and outline the steps taken to address threats to validity (Onwuegbuzie, 2003; Leech & Onwuegbuzie, 2010). Following the advice from Leech & Onwuegbuzie (2010), this thesis deals with this issue by providing a detailed account (for both quantitative and qualitative methods) of the validity of the instruments employed, their reliability/repeatability, and bias.

To be able to gain knowledge on the various aspects of this research, a combined methodology was selected for the data collection of this research. A multi-stage data collection ensures the strength of the argument as the value of multiple information sources increases when new information is integrated with other information (Dickson, 2001). This thesis will adopt a mixed research methodology as defined by Saunders et al. (2000). On the one hand, despite the wide application of Porter's strategic typology in various industries and settings, there is no a study investigating his framework in the UK MSMEs sector. On the other hand, and based on the discussion in Chapter Two, Porter's typology has a number of gaps and thus there is no consensus of whether a pure or combination strategy is the most appropriate strategic synthesis for MSMEs to

achieve competitive advantage over their rivals. Similarly, there are no studies employing the value chain framework to test the formulation of competitive strategies.

The mixed methodology is developed through a two-stage process and is based on a mixed research method:

Phase 1: A deductive approach through the use of quantitative data analysis with the purpose of testing Porter's generic strategies within the UK MSMEs sector. The methods used at this stage will be based on existing sources of data (available online from UK Data Archives) and a questionnaire survey. The purpose of this stage is to examine the applicability of Porter's framework within the UK MSMEs.

Phase 2: An inductive approach by using qualitative data analysis with the purpose of introducing a new competitive strategy framework that could be employed by UK MSMEs with the purpose of gaining competitive advantage over their rivals. The proposed framework employs the value chain framework with the purpose of assisting MSMEs to identify and formulate successful competitive strategies.

3.6 Research Design

Based on the discussion in the previous section, this study will test Porter's strategy typology and address the gaps in literature (refer to Chapter Three) by employing a mixed research methodology. As a result, a mixed research design is used: (1) Quantitative analysis of data provided by the UK Data Archive Data Sets (online database). Here, a number of studies are made available for further investigation and analysis for PhD projects and other studies. A number of competitive strategy variables have been identified for the purposes of this study; (2) Based on the number of variables

identified in Section 4.2, the above data sets do not provide a complete depiction of the competitive strategy characteristics. Thus, this thesis employs a questionnaire survey (quantitative approach) with the purpose of investigating the applicability of Porter's framework within the UK MSMEs sector; and (3) A qualitative approach is finally employed to investigate the formulation of competitive strategies by using the value chain framework. The research method used here is semi-structured interviews.

Each one of the above research instruments will be presented further in the following paragraphs.

3.6.1 Quantitative Approach: UK Data Archive Datasets

The aim of this thesis is to investigate the synthesis of successful competitive strategies of UK MSMEs. Studies published online at UK Data Archive have made available a number of datasets for further investigation and research. This study will use the data available based on a number of variables employed in different datasets to examine the strategic synthesis of MSMEs. The researcher identified the following databases (quantitative data) that could be used to investigate MSMEs' competitive strategies within the UK. These are: (1) Cambridge Centre for Business Research SME Dataset (Second Panel), 1997; and (2) Cambridge Centre for Business Research Manufacturing Strategy & Competitiveness Dataset 1994-1999.

3.6.1.1 Cambridge Centre for Business Research SME Dataset (Second Panel), 1997 (Project Code: 4431)

This research programme was released on 12th December 2001; its aim was to investigate SMEs in UK in relation to various financial and attitudinal characteristics. (Cosh et al. (2001) – access date May 2007).

The 4431 research project covered the period between 1994 and 1997; the fieldwork took place between June and September in 1997. The sampling framework used in the construction of the survey was the Dunn & Bradstreet database. The industry setting was mixed and covered both manufacturing and services SMEs. The size of targeted firms was between 1 – 500 employees.

For the purposes of this research study, the researcher utilised the competitive strategy variables illustrated in *Table 3.2* and were available within the dataset. Moreover, the table defines the synthesis of the competitive strategy variable in terms of its cost leadership and/or differentiation characteristics. Within the questionnaire respondents were asked to score the above competitive advantage factors from 1-5 with 1 indicating insignificant advantage and 5 indicating crucial advantage.

To test the strategy-performance fit, the researcher will use the following variables available in the dataset: (i) turnover; and (ii) pre tax profit/loss.

In terms of reliability of the research instrument, the authors of the 4431 project did not pilot the questionnaire. Although there are no comments made throughout the database and the relevant documentation, the researcher believes that there was no need to carry out such an exercise as the 4431 project is a second panel dataset. In addition the questionnaire for the second panel appears to be similar to the first one with minor modifications.

The final version of the questionnaire was posted to 12,640 firms employing less than 500 employees in UK. The total usable number of questionnaires for the purposes of this research project was 2,520 resulting to a response rate of 19.9 per cent.

Table 3.2: Measures of Strategy and Variable Definition in relation to Competitive Strategy Direction (Project Code: 4431)

Competitive Strategy Variable	Relates to: Cost Leadership Strategy	Relates to Differentiation Strategy	Notes:
Price	Most	Most	Price can be an element of both competitive strategies
Marketing and Promotion Skill	Least	Most	
Speed of service	Least	Most	
Established Reputation	Least	Most	
Cost advantages	Most	Least	
Product design	Least	Most	Quality can be an element of both competitive strategies
Product quality	Most	Most	
Specialised Expertise or Product	Least	Most	
Range of Expertise or Product	Least	Most	
Flair & creativity	Least	Most	
Personal Attention and Responsiveness to Client Needs	Least	Most	

The dataset is available online from UK Data Archive and in SPSS format. However, for the purposes of this thesis, the researcher had to manipulate the data further for the following reasons: **(i)** the 4431 research project covers both services and manufacturing firms, and thus the researcher had to manually delete all SIC (1980) codes consisting of non-manufacturing enterprises; and **(ii)** the 4431 project defines SMEs firms with employee size from 1 to 500. In Section 5.2.1 of Chapter Five, the researcher indicates that this research will use the EU definition of SMEs. According to this definition, firms with employee size from 1 to 250 will be classified as SMEs. Thus, firms with employee size above 250 were deleted from the dataset.

Based on the those data manipulations with the purpose of fitting the objectives of this study and to cover only UK MSMEs the total sample size was reduced to 1,331 firms. In addition, all missing values were deleted for a robust and fully complete dataset.

3.6.1.2 Cambridge Centre for Business Research Manufacturing Strategy & Competitiveness Dataset 1994-1999 (Project Code 4434)

This research programme was released on 21st March 2002; its aim was to investigate manufacturing firms' strategy in relation to changing environmental conditions (Cosh et al. (2002) - access date May 2007).

The 4434 research project covered the period between 1994 and 1999 and the fieldwork took place between June and July in 1997. The industry setting covered high technology manufacturing firms. The questionnaire covered topics such as: general characteristics and objectives of the business; manufacturing production and competitive capabilities, principal products; and market competition, and significant changes affecting their business in the last three years.

For the purposes of this research study, the researcher utilised the competitive strategy variables shown in *Table 3.3* (the respondents were asked to score the following factors from 1-5 with 1 indicating not important and 5 critically important). The same table defines the synthesis of the competitive strategy variable in terms of its cost leadership and/or differentiation characteristics.

To test the strategy-performance fit, the researcher will use the following variables available in the dataset: (i) turnover; and (ii) pre tax profit/loss.

In terms of reliability of the research instrument, the authors of the 4434 project do not provide any relevant information, and thus no assumptions can be made in relation to the instrument's reliability. In addition, the authors do not provide any information regarding the sample size targeted. The total usable responses received were 250.

Table 3.3: Measures of Strategy and Variable Definition in relation to Competitive Strategy Direction (Project Code: 4434)

Competitive Strategy Variable	Relates to: Cost Leadership Strategy	Relates to Differentiation Strategy	Notes:
New Product Introduction	Least	Most	
Product Features	Least	Most	
Product Reliability	Least	Most	
Product Variety	Least	Most	
Custom Manufacture	Least	Most	
Meeting Customer Due Dates	Least	Most	
Customer Service	Least	Most	
Low Price	Most	Most	Price can be an element of both competitive strategies
Newly Introduced Production Processes or Equipment	Most	Least	
Conformance Quality (Low Defect Rates)	Most	Least	
Performance Quality (High Performance Quality)	Least	Most	
Low Labour Costs	Most	Least	
Low Material Consumption	Most	Least	
Low Energy Consumption	Most	Least	
Low Inventory Costs	Most	Least	

The dataset is available online from UK Data Archive and in SPSS format. The researcher had to manipulate the data for the following reasons: (i) In Section 3.2.1, the researcher indicated that this research uses the EU definition of SMEs. According to this definition, firms with employee size from 1 to 250 will be classified as SMEs. Thus, firms with employee size above 250 were deleted from the dataset.

Based on the above data manipulations with purpose to fit the objectives of this study and to cover only UK MSMEs the total sample size was reduced to 178 firms. In addition, all missing values were deleted for a robust and fully complete dataset.

3.6.2 Questionnaire Survey

The datasets presented in Section 3.6.1 provide useful information in relation to UK MSMEs competitive strategy direction. In addition, they employ a number of competitive strategy and performance variables. Hence, an analysis of the responses received can provide a useful insight of the characteristics of successful competitive strategies employed by UK MSMEs.

However, although the datasets cover various variables, they do not fully satisfy the criteria and aims set for the purposes of this study. For instance, the datasets: (i) cover only a part of the variables identified in Section 3.2; (ii) do not investigate whether UK MSMEs use the value chain framework; (iii) have as their primary objective the study of other issues in relation to SMEs and not their competitive direction (although relevant questions were included in their survey); and (iv) do not directly test Porter's strategic typology but the overall competitive strategy direction of MSMEs.

To address the above issues and gaps of the above datasets, this study has carried out a survey questionnaire. According to Barnes (2001), by employing a questionnaire as a research instrument the data collection and analysis are simpler and speedier than is achievable with other methods. In addition, the questionnaire-based approach can be an extremely efficient method in targeting and collecting data from a large number of firms.

Although this approach has disadvantages (for instance, a questionnaire is standardised so it is not possible to explain any points in the questions that participants might misinterpret or feel that could be explained better; respondents may answer superficially; they might not answer at all; and low response rate), it has as well a number of advantages: (i) relatively quick to collect information (Saunders et al., 2000; Gray, 2004; Denscombe, 2007); (ii) information can be collected from a large group (Clarke & Dawson, 2000; Saunders et al., 2000; Gray, 2004; Denscombe, 2007); (iii) mail surveys allow the respondent to answer at their leisure, rather than at the often inconvenient moment they are contacted by phone or for personal interview (Saunders et al., 2000; Gray, 2004); (iv) questionnaires are especially useful when the respondents must remain anonymous (Saunders et al., 2000; Gray, 2004). They can be distributed and returned in ways that respondents can feel confident that their identities are secured (confidentiality and business related ethics); (v) there is lack of interviewer bias (Gray, 2004); (vi) in addition, similar studies have employed the questionnaire-based approach to investigate business strategies; and (vii) they are cost effective (Saunders et al., 2000).

Prior to constructing the survey instrument a thorough investigation was carried out in the strategic management literature in order to identify a number of competitive strategy variables to be tested (refer to Section 3.2). As a result, a draft questionnaire was developed. Consistent with the conventional process, the questionnaire was pre-tested through a pilot survey with fifty MSMEs randomly selected from the 'One Source UK' database. The sampling technique for the pilot stage is based on random selection employing a relevant numerical coding system within SPSS. Managers were asked to indicate any ambiguities or difficulties within the questionnaire and in addition to make any suggestions for improvement.

Twelve responses were collected (a twenty-four per cent response rate); there were in total three suggestions for improvement in relation to wording and questionnaire layout. These suggestions were taken into consideration and a final version was issued. A copy of the final version of the questionnaire can be viewed in *Appendix 1*).

Financial performance-related questions are vital for judging the competitive methods of a firm. However, the researcher did not include performance related questions other than the Q3-Part C. Such questions were excluded mainly for the following reasons: first, financial performance questions are difficult to answer and are considered sensitive. Thus, such questions could reduce the response rate; second, for those companies responding to the survey, financial information was available in the form of financial statements and reports from the 'One Source UK' online database. Thus, all the relevant data regarding turnover, profit, and growth were available to carry out the strategy-performance analysis.

The questionnaire was developed combining open and closed questions to ensure that respondents provide valid information and at the same time express their broad perspectives and experience on generic strategies. In addition, the questionnaire uses a scale ranging from 1 (most important) to 6 (least important) where senior executives were asked to rate the relative importance of several competitive methods to the strategic orientation of their firm. The scale 1 to 6 was developed because it eliminates the possibility that respondents will choose a factor defined by them as 'maybe' and not as yes or no.

In an effort to maximise the response rate, a covering letter that specified anonymity and confidentiality was sent with the questionnaire, and a prepaid return envelope was

included. In every single communication the researcher used the full details (name, company name, and address) of the potential respondents. Moreover, a follow up reminder in the form of letter was sent with the purpose of requesting those not responding to complete the questionnaire.

In this study, the survey sample is drawn from the online database OneSource with which various search criteria can be set. Data extraction took place during 2005-6. By choosing the parameters of the study (for instance, this thesis focuses on private SMEs in the manufacturing sector with employee size between 5 and 250 people) the sampling technique employed in this study can be defined as the "simple random sampling" method.

This database has some advantages compared to other ones. In terms of the range of data: (i) it uses data from a number of databases (for instance, Dunn & Bradstreet); (ii) detailed data in terms of employee number, size, and markets were available; (iii) detailed financial data, such as turnover, profits, growth rates, costs and reports could be utilised; (iv) the database covers firms at a national level and hence it covers the whole firm population; and (v) it allows random sampling to be drawn by the database.

Moreover, 'One Source UK' online database has a number of other advantages which assist with various administrative tasks: (i) it provides a sample selection tool based on various criteria and thus minimises the sampling error and bias during the sampling process; (ii) the selected sample can be exported to Microsoft Excel for further analysis; (iii) financial and company data can be exported to Microsoft Excel; and (iv) it can assist researchers to create mailing lists and labels.

Based on the research objectives discussed in Chapter One, this study investigates MSMEs in UK. To link the research objectives with the sampling process, the researcher utilised the available online selection tool based on the following criteria: (i) business description: manufacturing firms; (ii) company size in terms of employees (using the SMEs definition provided by European Union) between 5 and 250 people. The sample does not include smaller firms than 5 employees with the purpose of avoiding those companies registered as sole traders and/or self employed; and (iii) ownership status: private firms.

Based on the above selection criteria on the online database, the search brought back a total of 1,025 UK MSMEs. Because of the high cost of sending the survey pack (questionnaire, letter, pre-paid envelope and the reminders) to all these companies, 800 firms were randomly selected by using SPSS (select cases tool). Thus, the actual sample for the survey is 800 UK private MSMEs.

The questionnaire was sent to Managing Directors of 750 UK MSMEs. The Managing Directors have knowledge of their company structure and competitive strategy and thus will be able to respond confidently to the questions included in the survey. The questionnaire was sent during 2004 (including both reminders) and all data were collated the same year (responses and financial statements). Two hundred and forty responses were obtained. Twenty-eight respondents refused to complete the questionnaire claiming that it is not their company's policy to participate in any kind of surveys, and thirty were returned as 'not delivered'. The remaining 182 responses were used for the data analysis with the purpose of testing Porter's typology. This represents a response rate of 24.26 per cent, which is favourable for this type of postal survey (Saunders et al., 2000).

3.6.2.1 Maintaining Reliability of the Survey Instrument:

Regardless of the research procedure used and the method employed, researchers need to critically assess to what extent it is likely to be reliable and valid (Bell, 2005). Reliability may be defined as *the extent to which a test or procedure produces similar results under constant conditions on all occasions* (Bell, 2005: 117). According to Saunders et al. (2000: 307), the reliability of a questionnaire *"is concerned with the consistency of responses to your questions"*. There are however three ways (Saunders et al., 2000; Bell, 2005) for assessing reliability: **(i)** test re-test (estimates reliability by administering the same questionnaire twice to respondents); **(ii)** internal consistency (estimates reliability by correlating the responses to each question with other questions within the same questionnaire); and **(iii)** alternative form (estimates reliability by comparing responses to alternative forms of the same question or questions).

The researcher took the following actions to ensure reliability of the data resulting from the questionnaire: (i) tested the wording and context of the questions by carrying out a pilot study. All relevant comments made in relation to wording and questions were taken into consideration and a final questionnaire version was issued; (ii) employed the "alternate form" for testing the reliability of the responses. Within the questionnaire a number of 'check questions' were included in the form of open questions to test the reliability of those questions in closed format (those check questions are located within Part B of the questionnaire: questions Q1 and Q3); (iii) in Part B, ranking questions in groups A, B, C, and D relate to strategy variables. Those variables consist of ways of achieving either cost leadership or differentiation strategies. Within those groups, the variables are mixed and there is no indication that they are part of a cost leadership or differentiation strategy; and (iv) in addition, to reduce respondent bias, the researcher did not mention that the study was testing Porter's generic strategy typology (either

within the questionnaire or any other communication). The only indication made was that this research was investigating competitive strategy syntheses.

3.6.2.2 Data Entry

Each part within the questionnaire was represented by short version as a code name (for instance, Part A becomes A), and each question within this part was given another code name (for instance, the question relating to the location of a company becomes LOCA. If the question has more than one variable to be ranked, then the code name becomes the question number and the variable code: Q217). Thus, question two in Part B with variable code 17 becomes BQ217. The full code (for instance, BQ217) was inserted at the head of the columns of the spreadsheet. Similarly, company names were replaced by codes entered into the rows of the same spreadsheet.

The above developed spreadsheet with the relevant coding system allowed the tabulation of the questionnaire responses that were based on a ranking system of the scale 1 (most important) to 6 (less important). Moreover, the researcher used the number 8 to denote a response as Not Applicable (N/A). The open ended questions are used with the purpose of testing the reliability of the responses and the input into the spreadsheet is based upon a code given for strategic direction of firms (for cost leadership is CL; for differentiation is DS, for combined strategies is CM). The data were imported into the statistical package for social sciences SPSS 14 for Windows for analysis.

3.6.3 Qualitative Analysis: Semi-Structured Interviews

During the discussion in Chapter Two, there are a number of gaps in the literature that current frameworks have not answered. For instance, the majority of studies employ

Porter's generic strategies to investigate firms' competitive strategies. Although Porter (1985) states that the value chain framework can be considered as a tool for formulating, diagnosing and implementing generic strategies (cost leadership and differentiation), those studies simply examine whether firms employ a differentiation or cost leadership strategy. Albeit, there are studies investigating the generic strategies within an area of the primary or secondary value chain activities (for instance, Floyd & Zahra, 1990; Doyle & Wong, 1998; Chan et al., 2004; Valos et al., 2007), there are no studies linking the overall competitive strategy formulation with the value activities. To test the proposed framework, this study's research design uses a qualitative approach by carrying out a number of interviews.

The interview sample was drawn from the 182 responses collected during the questionnaire survey. The main reasons for drawing the sample from the questionnaire respondents are data validation and reliability because it provides the opportunity to cross-check their views on competitive strategy. Moreover, semi-structure interviews can be used with the purpose of exploring and explain themes that have emerged from the use of a questionnaire (Wass & Wells, 1994: cited in Saunders et al., 2000:245).

To acquire a sample size of 50 companies out of the 182 collected from the survey questionnaire, the researcher employed SPSS to randomly select the sample. From the 50 companies invited to participate only 15 agreed to be interviewed (30 per cent response rate). A number of potential participants were not willing to take part for a number of reasons (for instance, work commitments, did not have time for interviews, or simply company policies did not allow them to give interviews for research purposes). All the communication process regarding scheduling and carrying out the interview sessions took place between August 2006 and February 2007.

Interviews as research instrument are a method commonly used in phenomenological research (Remenyi et al., 1998). Interviews can assist researchers in gathering "*valid and reliable"* data (Saunders et al., 2000: 242). There are mainly three types of interviews: (i) structured: using questionnaires based on standardised questions; (ii) semi-structured: using non-standardised questions by having a list of themes and/or questions to be discussed; and (iii) unstructured (in-depth): using non-standardised questions that are informal.

This study uses the semi-structured method for the following reasons: (i) structured interviews are descriptive in nature and the data gathered are subject to quantitative analysis (Saunders et al., 2000). Based on the research strategy of this study, this method does not allow respondents to explain the relationship of a number of variables in relation to competitive strategy; (ii) unstructured interviews (in-depth) although assisting in understanding the 'why', 'how' and 'what' of a number of issues, are exploratory in nature. Thus, such research design allows researchers to explore what is happening but not to explain the relationships between variables (Saunders et al., 2000); and (iii) on the contrary to the above instruments, semi-structured interviews can be both exploratory and explanatory in nature (Saunders et al., 2000). Thus, not only allowing the investigation of 'why', 'how', and 'what' but also assisting in understanding the relationships between variables.

Despite the fact that there are problems with carrying out interviews (for instance, interviews are time consuming; they can be subjective and thus there is the danger of bias; problems with wording questions, experience in carrying out interviews; and data analysis), there are the following advantages: (i) adaptability. Interviewers can follow up ideas, probe responses and investigate motives and feelings (Saunders et al., 2000;

Bell, 2005; Denscombe, 2007); (ii) the way responses (e.g. facial expression, hesitation and similar) are given can provide additional information (Bell, 2005); (iii) responses can be developed and clarified (Saunders et al., 2000; Bell, 2005; Denscombe, 2007). In addition, the interviewer can explain the purpose of the study, discuss the interview, and respond to any questions a respondent might have (Adams & Schvaneveldt, 1991); and (iv) interviews can provide rich material and add to questionnaire responses (Bell, 2000; Denscombe, 2007).

To assist the researcher to carry out the interviews and thus collect relevant information, an interview script (a copy of the interview script is attached as *Appendix 2)* was developed incorporating: **(i)** an opening of the interview to 'break the ice', explain the purpose of the research, and stress anonymity and confidentiality; **(ii)** A number of open questions to investigate various competitive strategy variables within the value chain activities of firms; and **(iii)** Various probing questions to allow the researcher to explore responses.

The researcher incorporated the use of tape recorders during the interview sessions with the purpose of: **(i)** allowing the researcher to concentrate on questioning and listening; **(ii)** making the session far more relaxed without having to concentrate on writing up notes; and **(iii)** providing direct quotes to be used in the next chapter.

At the beginning of the interview, the researcher also asked them whether the use of a tape recorder was consistent with their company policy. In addition, it was stressed that if respondents did not wish any specific parts to be tape recorded to inform the researcher to stop the process.

In terms of arranging the interview sessions with potential participants the following administrative tasks took place: (i) a letter was sent explaining the purpose of the interview in which anonymity and confidentiality was emphasised; (ii) a reply sheet was attached to the letter asking the potential participants to indicate whether they would like to participate or not. The respondents were asked to indicate potential dates and preferable mode of contact to arrange an interview session; (iii) a pre-paid envelope was included for the potential respondents to send the reply sheet; and (iv) a reminder letter was sent to those did not respond.

The interview script was developed with the purpose of acquiring relevant information and guide the researcher to ask appropriate questions based on a significance level which refers to the importance of each question in meeting the criteria of the research study and thus achieve its aims. Thus, (i) during the first few minutes various general questions were asked with the purpose of acquiring general knowledge and testing the capability of respondents in understanding and answering the questions; (ii) the most critical questions were asked next and the researcher allowed respondents to elaborate further if it was required (time restrictions); and (ii) at the end of the session less critical and sensitive questions were asked.

In addition, financial performance related questions were excluded from the interview mainly because of the possession of the relevant financial statements and reports. Nevertheless, the researcher included a non-financial question at the end of the interview session regarding the company's market share performance.

3.6.3.1 Semi-Structured Interviews: Dealing with Data Quality Issues

Semi-structured interviews as any other research method and instrument need to be critically assessed for the validity and reliability of their data (Remenyi et al., 1998; Saunders et al., 2000; Gray, 2004). More specifically, various data quality issues are related to: (i) reliability; (ii) forms of bias; and (iii) validity.

The first issue regarding data quality is reliability. According to Gray (2004:219): *"For a research instrument to be reliable it must consistently measure what is set out to measure"*. Thus, *"reliability is concerned with whether alternative interviewers would reveal similar information"* (Saunders et al., 2000:250). In essence, the concern has to do with how the study can be replicated. According to Saunders et al. (2000), to overcome the reliability issue, researchers need to provide detailed information of the research study and design so others can replicate the findings. Here, the full interview script is attached for further investigation and review. Similarly, a variety of analyses, quotes, and transcribed information is provided within the Results Chapter and number of Appendices.

Another data quality issue relates to various types of bias. For instance, interviewer bias is created by comments made, tone or non-verbal behaviour in response to interviewees' answer to questions (Saunders et al., 2000). In addition, interviewers can demonstrate bias in the way they interpret responses (Saunders et al., 2000). Another issue is the interviewee or response bias. In this case bias is caused by perceptions about the interviewer, and lack of willingness to provide answers to sensitive questions (Saunders et al., 2000). Bias can also result from the nature of individuals mainly because of personal issues such as time commitments that may result in a reduction in willingness to take part (Saunders et al., 2000).

Overcoming bias related issues is quite complex and requires a positive communication between interviewer and interviewee. Saunders et al. (2000:252) provide various key measures to assist researchers overcome bias in qualitative interviews. This study utilised the key elements to overcome bias throughout the interview sessions. A brief description is given below: (i) preparation and readiness for the interview; (ii) level of information supplied to interviewees prior to the interview; (iii) appropriateness of the researcher's appearance at the interview. This increases credibility and is advised to adopt a similar style of dress to those to be interviewed; (iv) the nature of the opening comments to be made when the interview commences, increases credibility and the interviewee's confidence; (v) approach to questioning: interviewers' questions need to be clearly phrased, so the interviewee can understand them; (vi) the nature and impact of the interviewer's behaviour during an interview session could also reduce the scope for bias; (vii) demonstration of attentive listening skills by providing interviewees with reasonable time to develop their responses; (viii) scope to test understanding: it is recommended that interviewers should provide summaries of a number of explanations provided by the interviewees; and (ix) a full record of the interview should be transcribed as soon as possible after it has taken place.

Finally, data validity relates to what extent the researcher has gained full access to knowledge and meanings of respondents (Remenyi et al., 1998; Easterby-Smith et al., 1991, cited in Saunders et al., 2000). In essence, validity refers to whether *"the data collected is a true picture of what is being studied"* (Hussey & Hussey, 1997: 173). To overcome the validity issue in relation to data quality, the researcher followed a twofold approach. One the one hand, he followed the advice offered by Collins & Young (1988, cited in Remenyi et al., 1998:115) regarding data validation by feeding back to respondents interview transcripts for verification. Thus, the researcher further to initial

agreement with respondents sent a transcribed copy of the interview for validation and verification. On the other hand, the researcher triangulated the responses with those collected during the questionnaire survey for further validation and verification.

3.6.3.2 Data Entry

The interview sessions were initially transcribed in Microsoft Word. Because of the complexity of the investigation, the responses were grouped into a single document with the purpose of identifying each firm's competitive strategy synthesis per value chain activity. For instance, for "inbound logistics", all the responses from the interviewees were grouped under the same category of data. Such data groupings allow researchers to further identify commonalities and develop meaningful comparisons.

The researcher used the following steps in coding the interviewees' responses: (i) definition of the coding categories based on the value chain activities; (ii) assigned category symbols/code, also based on the value chain activities. For instance, a top level value chain activity is 'Operations' and its code is OPERA. A sub-category is 'Manufacturing Systems' and its code is OPEMS. The next level relates to activities as were indicated by interviewees, e.g. 'Flexible manufacturing systems that allow different frameworks to be made'. According to an interviewee that type of system allows a broad product range and thus adds value by differentiating the product range. Hence it is an element of differentiation strategy. In the data-entry field elements of differentiation are indicated with the numeric value 1, cost leadership with 2, missing values with -1, not mentioned by the respondent with 0, and unwillingness to respond with 9; and (iii) classified relevant information into the categories. Every response was then identified as an element of cost leadership and/or differentiation strategies. The identification was based on evidence from previous studies on whether such an activity

could be considered as an element of cost leadership and/or differentiation strategy. On the other hand, the interviewees were asked to state what type of activity adds value in their company. For instance, in the case of low price some of the respondents replied that low price is a tool for differentiating themselves in the marketplace whereas others indicated that low price is a way to be more competitive based on lower costs.

The above coding system and the responses were added to Microsoft Excel for further analysis with the purpose of identifying the significance of those factors as an element of competitive strategy and in addition to identify strategic groups with similar strategic synthesis (clusters).

In terms of analysing qualitative data Denscombe (2007:287-288) states the following four principles: (i) the analysis of the data and the conclusions drawn from the research should be firmly rooted in the data; (ii) the researcher's explanation of the data should emerge from a careful and meticulous reading of the data; (iii) the researcher should avoid introducing unwarranted preconceptions into the data analysis; (iv) the analysis of the data should involve an iterative process.

To meet the above four principles Denscombe (2007) proposes a number of stages when analysing qualitative data. This thesis will employ the following steps in analysing the qualitative data: (i) preparation of the data in a readable format with the purpose of assisting the researcher to access and analyse the data at a later stage; (ii) familiarity with the data to allow the researcher in 'reading between the lines' and thus identifying if there are 'implied meanings' contained in the data; and (iii) interpreting the data by developing codes, categories, themes and concepts. In this thesis, all categories are based on a number of value chain activities.

3.7 Conclusion

To conclude, the purpose of this chapter was to discuss the research methodology, approach, study setting and methods with the purpose of testing Porter's theory of generic strategies and finally to evaluate the usefulness of the proposed theoretical framework.

Thus, an empirical mixed research methodology has been adopted and combines both elements of positivism and phenomenology. The positivist methodology tests Porter's theory in two ways: first a number of datasets available from UK Data Archive (online) were used to investigate the competitive strategies of UK MSMEs based on a number of variables; second, to cover the gaps in the number of variables employed in those datasets and whether MSMEs use the value chain framework, this study carried out an additional questionnaire survey. On the other hand, the phenomenological stage used a qualitative approach with the purpose of testing and tuning the proposed competitive strategy framework to MSMEs.

Chapter 4

DATA ANALYSIS: QUESTIONNAIRE SURVEY & DATASETS

4.1 Introduction

This chapter focuses on data analysis for Stage One of the research design. Initially, an overview of the chosen methodology of the data analysis will be given and then a discussion of the results will be undertaken.

Each part of Stage One (questionnaire survey and datasets available from UK Data Archive) is presented separately in relation to Porter's (1980) competitive strategy framework. The data analysis carried out is similar to a number of studies (Dess & Davis, 1984; Kim & Lim, 1988; Wright et al., 1990; Miller, 1992; Marques et al., 2000; Silva et al., 2000; Jacome et al.,2002) and begins with basic descriptive statistics. Then, a factor analysis has been chosen to discuss a possible common method variance in relation to which strategic variables are employed by firms with the purpose of being successful. Cluster analysis is demonstrated with the purpose of identifying strategic types of MSMEs in UK. The performance of MSMEs with different forms of strategic orientation (based on the clusters produced) is compared by using mean, standard deviation, and coefficient of variation.

4.2 Methodology of Data Analysis

There are three different methods of data analysis employed in this research: **(i)** Factor Analysis; **(ii)** Cluster Analysis; and **(iii)** Means, Standard Deviation and Coefficient of

Variation analyses. The justification of using those methods for data analysis is given in the following paragraphs.

Based on the Hypothesis set in Chapter Three and the methodological setting of this study, at this stage an evaluation of Porter's generic strategies will take place. The methodology of data analysis is based on a number of previous empirical studies that have employed similar methods and statistical techniques. During the background study in Chapter Two, 20 studies were identified which described competitive strategy syntheses using principal component factor analysis and cluster analysis. *Table 4.1* shows that there are 18 studies (the exceptions here are Miller & Friesen, 1986a; and Wright et al., 1991) which initially employ a factor analysis with the purpose of aggregating elements of competitive strategy into a smaller number of dimensions (the principles of factor analysis will be explained in the next paragraphs). 14 of these studies have used cluster analysis with the purpose of investigating strategic groups with similar elements of competitive strategy. In the same table there are 11 studies that also examined the performance of those clusters identified (strategy-performance fit).

The majority of the studies shown in *Table 4.1* combine statistical methods to investigate Porter's framework of generic strategies. The first step is to employ principal component factor analysis that is used to summarise and describe competitive strategy. Factor analysis is a technique that reduces the number of competitive strategy variables used in an analysis by creating new variables (called factors) that are grouped together so that they can be treated as one combined variable rather than a series of separate variables (Cramer, 2003; Kinnear & Gray, 2004). Thus, factor analysis can assist in determining whether the responses to types of competitive strategy can be grouped together with the purpose of forming an overall index of the competitive

method concept. For instance, general responses to strategy that are considered as elements of either a cost leadership strategy or differentiation strategy will be grouped together based on the characteristics of each strategy. Thus, factor analysis of the competitive methods is employed to investigate the strategy dimensions associated with Porter's original types of competitive strategies: cost leadership, and differentiation.

Table 4.1: Empirical Studies Investigating Porter & Methodology of Data Analysis

Author	Industry Setting	Sample Size	Number of factors produced	Number of clusters produced	Performance Measures	
					Financial	Growth
Galbraith & Schendel (1983)	PIMS	600	6	6	yes	yes
Hambrick (1983)	PIMS	400	17	10	yes	
Dess & Davis (1984)	Paint Industry	78	3	4	yes	yes
Miller & Friesen (1986a)	PIMS	102		10	yes	yes
Kim & Lim (1988)	Korea Electronics	54	4	4	yes	yes
Robinson & Pearse (1988)	Various Industries	97	4	5	yes	yes
Wright et al. (1991)	Screw Machine Products	56		3	yes	yes
Miller (1992b)	SME	45	4	5		
Morrison & Roth (1992)	Global Competition	306	5	4	yes	yes
Parker & Helms (1992)	Declining Industry	87	3			
Nayyar (1993)	Product Managers	496	3			
Green et al. (1993)	Portugese Manufacturers	68	4			
Kotha et al. (1995)	SIC 34-39	177	6			
Yamin et al. (1999)	Australian Manufacturers	214	11		yes	yes
Silva et al. (2000)	Mold Industry	43	5	7	yes	yes
Jacome et al. (2002)	Portuguese Porcelain Industry	10	5	3	yes	
Alen & Helms (2006)	MBA Students	221	4		yes	yes

This thesis evaluated the results of the factor analysis on two bases: the percentage of the total variance distributed among the components and their interpretability. Rotated loadings produced do not include values that fall below +/- 0.30, as this is generally regarded as the minimum level of practical significance for component loadings (Hair et al., 1998:111). Moreover, component loadings above +/-0.40 gain in importance and loadings above +/-0.50 are practically significant (Hair et al., 1998:111). Studies investigating Porter's generic strategies use different criteria for significance; for instance, Parker & Helms (1992) report a level of significance above +/- 0.30, whereas Dess & Davis (1984), and Green et al. (1993), above +/- 0.50. It is generally accepted that studies can include values of +/- 0.30 and above when an existing theory is being tested (Hair et al., 1998:104). In this study, components accounting for a lower level of variance that fall below +/- 0.30 will be discounted.

The statistical output produced by factor analysis includes a series of stages to produce the final minimisation of the relationships between variables which is referred as a rotated component matrix. Similarly to all above studies (refer to *Table 4.1*), this study will report the data based on the results produced by the rotated component matrix. According to Kinnear & Gray (2004), the rotated component matrix is much easier to interpret than the unrotated matrix because of the minimisation of factors which took place. When each dataset is discussed in the following sections the relevant reference to each appendix is made.

The interpretation of the loadings produced by factor component analysis (the final rotated matrix) is based on a number of previous studies (refer to *Table 4.1*). Each component produced will be defined as an element of a cost leadership or differentiation strategy. A factor consisting of loadings that are elements of a differentiation strategy

will be characterised as a differentiation strategy as was initially stated by Porter (1980). When factor loadings indicate cost leadership components, then the synthesis of this factor will be equivalent of a cost leadership strategy. Loadings that combine elements of both strategies will be characterised as a combination strategy. Finally, the factors produced will be used in cluster analysis with the purpose of identifying similar groups of firms using a similar strategic synthesis.

Cluster analysis is used in strategic management research (Ketchen et al., 1997) with the purpose of aggregating a variety of competitive strategies into commonly occurring patterns. In this study, the researcher will employ SPSS to identify competitive strategy clusters with the purpose of identifying groups of companies employing similar competitive strategy synthesis and direction. *Table 4.1* shows as well studies that have used cluster analysis to analyse strategic groups. However, there was no clear indication of which cluster analysis method they used. SPSS has three different procedures that can be used to cluster data: hierarchical cluster analysis, *k*-means cluster, and discriminant analysis. Agglomerative hierarchical clustering begins with every case being a cluster in itself. At successive steps, similar clusters are merged. The clustering stages are as follows (Landau & Everitt (2004:310): (i) initially, the two variables that have the shortest distance between them are grouped together to form one cluster; (ii) At the second stage, either a third variable is added or agglomerated to the first cluster containing the two variables or two other variables are grouped together to form a new cluster; (iii) at the third stage, two variables may be grouped together, a third variable may be added to an existing group of variables or two groups may be combined. Thus, at each stage only one new cluster is formed; and (iv) at the final stage, all the variables are grouped into a single cluster.

K-means cluster analysis is an individual approach commonly grouped under iterative partitioning. Landau & Everitt (2004:311-312) state how iterative partitioning methods work: (i) *From an initial partition, variables are moved into other groups if they are "closer" to its mean vector than that of their current group (Euclidean distance is generally used). After each move, the relevant cluster mean vectors are updated; (ii) The procedure continues until all variables in a cluster are closer to their own cluster mean vector than to that of any other cluster; and (iii) Essentially the technique seeks to minimise the variability within clusters and maximise variability between clusters.*

A problem with the K-means method is that the number of clusters should be known within the targeted industry. It could be argued that existing typologies could provide a number of clusters to be employed in the k-means method. However, there are no classifications available when investigating the UK MSMEs in relation to competitive strategies and on the other hand, using existing typologies will not allow one to investigate natural classifications.

Finally, discriminant analysis assigns objects to established classifications; hence it cannot be used to identify cluster groups (Gordon, 1981:3). It is argued that this study could be based on existing classifications. For similar reasons as the k-means method, it is uncertain whether the typologies that this study employs actually exist within the industry that has been targeted.

Based on the previous discussion, this thesis approached cluster analysis by following three stages: exploration of the data; determining the number of cluster groups; and cluster group validation. As the number of classifications is not known in the targeted industry, hierarchical cluster analysis is used to gain an idea of possible groups (by

using Ward's method to link successive cases to the closest cluster). The variables used to investigate clusters are based on the components produced by using factor analysis (as was mentioned in the previous paragraphs SPSS was instructed to save the factor components produced). The interpretation of results is based on the agglomeration schedule produced by SPSS and describes numerically how clusters evolve. According to SPSS (2004:465-466), by looking at the agglomeration schedule, researchers can identify evidence of a sudden increase in coefficient values. This would indicate the stage at which clusters are being brought together and thus suggest the number of clusters to consider. As the agglomeration schedule produced is quite large, the data can be imported into Microsoft Excel to clearly exhibit the sudden increase in coefficient values (Scree Plot Diagram). Although Scree Plot diagrams have not been used in previous studies, it a useful way of exhibiting the data produced by cluster analysis. A major drawback of hierarchical cluster analysis is the difficulty to interpret the classifications produced because of the size of the datasets used in this study. However, this method allows identifying the number of clusters indicated by the sudden increase in coefficient values. Having determined the number of clusters through hierarchical cluster analysis, the k-means method is employed to actually form the clusters and thus allow the researcher to interpret their syntheses (k-means clustering method can be employed only when the number of clusters to be interpreted is known).

Having examined the synthesis of clusters and the elements of chosen competitive strategy, this study investigates the strategy-performance fit. Each cluster (produced by the k-means method) is compared in terms of its performance in relation to others, and thus indicates whether the strategic direction employed (as produced by factor loadings) delivers a high, medium, or low performance. *Table 5.1* exhibits a number of studies that have employed a variety of performance measure variables and the statistical

methods investigating the performance-strategy fit. Following the example of the majority of the studies (for instance, Wright et al., 1991; Morrison & Roth, 1992; Yamin et al., 1999; Silva et al., 2000; and Jacome et al., 2002) this study employs means, standard deviation and coefficient of variation to statistically test the strategy-performance fit of clusters. It is important to look at the extent to which the data values for a performance variable are spread around their mean as it will allow one to assess its usefulness as a typical value for the distribution (Saunders et al., 2000:355). To describe the extent of spread of quantifiable data, the standard deviation is used (Saunders et al., 2000:355). However, as the results of the standard deviation prove difficult to interpret (especially when the data between distributions are of different magnitudes; for instance, firms' turnover can be measures in thousands, millions or billions) Saunders et al. (2000) suggest the use of the coefficient of variation where the distribution with the largest coefficient of variation has the largest relative spread of data.

The procedure used in this thesis is as follows: (i) SPSS is instructed to produce the mean and standard deviation of each performance variable in relation to each cluster; and (ii) the results produced in the 'Final Cluster Centre' table are imported into Microsoft Excel to calculate coefficient of variation (SPSS does not have a tool to calculate the coefficient of variation).

4.3 Data Analysis for Project: 4431 (Cambridge Centre for Business Research SME Dataset, (Second Panel), 1997)

Based on the analytical tools presented in the previous section, here a discussion of the results for Project 4431 is given. Firstly, an overview of the operational facets is demonstrated in relation to industry setting and firm size (based on the methodology

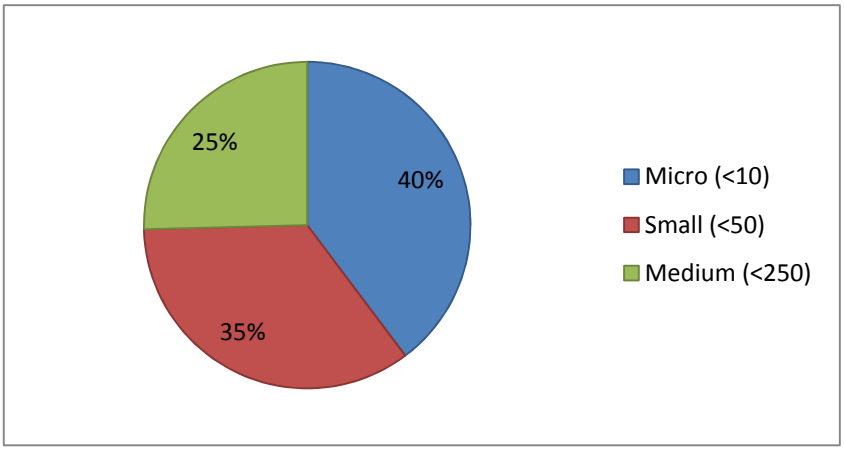
discussed in Chapter Five the industry and firm setting is UK MSMEs). Then factor analysis is used to discuss patterns of successful competitive strategies. Cluster analysis is employed with the purpose of identifying strategic groups with similar strategic direction based on the results of the factor loadings (components). Finally, an analysis of the performance of each cluster is produced based on means, standard and coefficient of variation statistical methods.

4.3.1 Project 4431: Operational Facets

The 1,331 respondents operate in diverse industrial environment within the manufacturing sector. Firms within the dataset are classified based on the UK's SIC92 code. In general terms, the respondents belong to one of the following categories: (1) Manufacture of food, beverages and tobacco; (2) Manufacture of textiles and textile products; (3) Manufacture of leather and leather products; (4) Manufacture of paper, publishing and printing; (5) Manufacture of chemical products; (6) Manufacture of rubber and plastic products; (7) Manufacture of other non-metal mineral products; (8) Manufacture of basic metal and fabricated products; (9) Manufacture of fabricate metals, not machines; (10) Manufacture of machinery and equipment; (11) Manufacture of office machinery and computers; and (12) Manufacture of Medical and Precision Instruments.

In relation to SMEs size, the dataset was adapted to the EU definition (refer to Chapter Four). *Figure 4.*1 shows that 40 per cent of respondents are classified as micro firms (<10 employees), 35 per cent as small firms (<50 employees), and 25 per cent as medium firms (<250 employees).

Figure 4.1: Project 4431 - Respondents Firm Size



4.3.2 Project 4431: Factor Analysis

Based on the results reported in *Appendix 3 (section 3a),* all variables correlate fairly well and none of the correlation coefficients are particularly large. Thus, there is no need to consider eliminating any variables. Based on the discussion in section 4.2, this study examines the results from the rotated factor matrix (refer to *Table 4.2*).

Factor 1 consists of speed of service, established reputation, product or service quality, range of expertise, products or services, and personal attention to clients. As was demonstrated in *Table 3.2* in Section 3.6.1.1, all the above loadings with the exception of product/service quality are characterised as elements of a differentiation strategy. Product/service quality could be an element of both differentiation and cost leadership strategy. Thus, factor 1 can be considered as a combination strategy with strong emphasis on differentiation by 83.3 per cent, and less on cost leadership.

Factor 2 consists of fairly different components. For instance, variables reported in these factors are: Marketing and promotion skills; product or service design; specialised expertise, products or service; range of expertise, products or services; and

flair/creativity. As was demonstrated in *Table 3.2* in Section 3.6.1.1, all the above loadings are characteristics of a differentiation strategy.

Table 4.2: Factor Analysis and Rotated Component Matrix (Project Code: 4431)

	Component		
	1	2	3
price			0.886
marketing and promotion skills		0.598	
speed of service	0.583		0.408
established reputation	0.683		
cost advantages			0.856
product or service design		0.732	
product or service quality	0.694		
specialised expertise, products or service	0.586	0.453	
range of expertise, products or services	0.524	0.493	
flair and creativity		0.758	
personal attention to clients	0.684		

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 7 iterations.

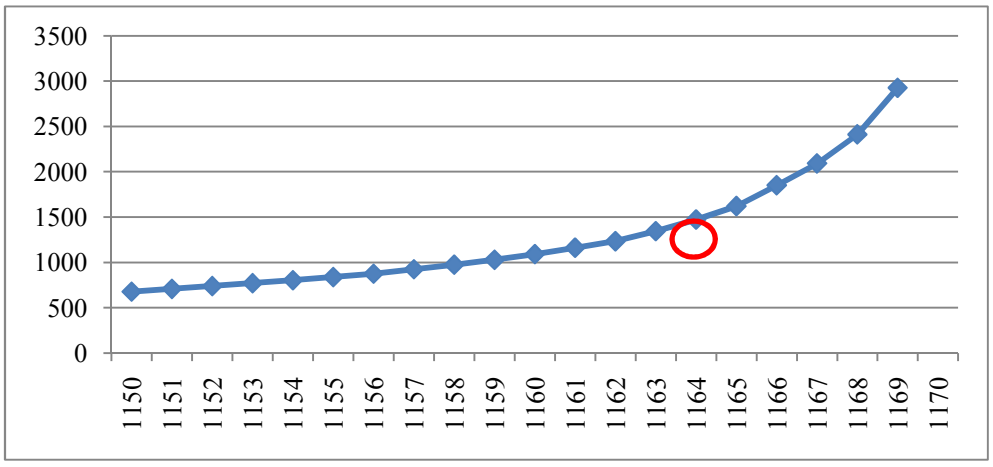
Factor 3 loadings are reported as follows: price; speed of service; and cost advantages. As was demonstrated in *Table 3.2* in Section 3.6.1.1, all the above loadings combine elements of both differentiation and cost leadership strategies. Thus, factor 3 is reported as a combination strategy with a strong emphasis on cost leadership (by 66.6 per cent).

Finally, SPSS 16.0 for Windows was instructed to save factor variables for the principal components produced from the competitive strategy. These factor variables are used in the cluster analysis. Once the cluster analysis has been run, the classification is produced by interpreting the means of each cluster group on the business strategy components, and the performance variables.

4.3.3 Project 4431: Cluster Analysis

The first run of Ward's method was employed to gain an idea of possible clusters. Following SPSS (2004: 465-471), the interpretation of the results was based on using the agglomeration schedule which numerically describes how clusters evolve). By looking at the coefficients in *Appendix 3*, it is obvious that the coefficients increase consistently until the final six, where there is a marked increase (it is far more obvious in *Figure 4.2* which shows the Scree diagram and identifies the step where the distance coefficients have a marked increase – highlighted with a red circle). This suggests (based on the guidelines given by SPSS, 2004) that there are six clusters. Based on the discussion in Section 5.2, hierarchical clustering begins by treating each case as an individual group and then goes through a process of combining and re-combining cases into groups, based upon measures of distance or similarity. This process continues until all the cases have been related to another and one cluster group is derived at the most aggregated level. As the agglomeration schedule is extremely large (refer to *Appendix 3*), the researcher has not included all the coefficients (it would not be readable otherwise).

Figure 4.2: Scree Diagram – Project 4431



Having identified the number of clusters, the researcher repeated the analysis by choosing the k-means method. Here, the number of clusters was set as six (the number produced by the hierarchical analysis). The final cluster centres are shown in *Table 4.3* and describes the synthesis of each group in relation to others.

Table 4.3: Final Cluster Centres (Produced by SPPS) – Project 4431

	Cluster					
	1 (n=261)	2 (n=113)	3 (n=148)	4 (n=216)	5 (n=263)	6 (n=170)
Factor 1 Combination Strategy (emphasis on Differentiation Strategy)	0,12695	-1,80876	0,98395	0,79757	-0,16933	-0,60065
Factor 2 Differentiation Strategy	0,54627	0,0181	-0,97363	-0,13904	0,93081	-1,26645
Factor 3 Combination Strategy (emphasis on Cost Leadership Strategy)	-0,94639	-0,59799	-0,85718	0,6638	0,76064	0,57656

Note: there are 160 missing values

Cluster 1 (n=261) characterises about the 22 per cent of the UK MSMEs in the sample, and there are firms equally from micro (38 per cent), small (31 per cent) and medium (31 per cent) enterprises. Firms within this cluster are mainly manufacturers of miscellaneous capital goods (14 per cent), auto and truck parts (13 per cent), and electronics (11 per cent). The majority of firms are 20+ years old (67 per cent), the 23 per cent have been operating for approximately 10 years, and the remaining 10 per cent for less than five years. Cluster 1 is similar to factor 2 (0.54) that is defined as differentiation strategy and very far from factor 3 (-0.94). Thus, firms of cluster 1 can be considered as differentiators. Companies within this cluster emphasise their strategic direction in flair and creativity (factor loading = 0.759); product design (factor loading

= 0.732); marketing and promotion skills (factor loading = 0.598); extensive range of expertise, products or services (factor loading = 0.493); and specialised expertise, products or service (factor loading = 0.453). Thus, firms in this cluster appear to focus on marketing differentiation (previous studies have supported similar findings, such as Miller, 1986 and Bowman, 1996) rather than the generic term of differentiation as was initially given by Porter (1980).

Cluster 2 (n=113) consists of ten per cent in the sample and the majority of enterprises are characterised as micro firms (42 per cent). The remaining companies are small (25 per cent) and medium-sized (34 per cent). Firms within this cluster are mainly manufacturers of miscellaneous capital goods (18 per cent), and printing services (13 per cent). Contrary to Cluster 1, Cluster 2 firms have been operating for over 20 years (79 per cent), and only a small number have commenced operations the last 10 years (12 per cent) and less than five years (nine per cent). Cluster 2 is very far from factor 3 (-0.59) and not particularly similar to any other factors. Thus, this cluster can be characterised as firms than do not have any clear strategic direction.

Similarly to Cluster 2, Cluster 3 (n=148) is formulated mainly by micro firms (45 per cent). The remaining firms are small (34 per cent) and medium-sized (22 per cent). Firms in this cluster are mainly manufacturers of auto and truck parts (21 per cent), miscellaneous capital goods (16 per cent), and printing (11 per cent). Correspondingly to the cluster 1 and 2, this cluster is dominated by firms that operating more than 20 years in their industry (75 per cent). 18 per cent of those firms have been established the last 10 years and 11 per cent for less than 5 years. Cluster 3 is similar to factor 1 (0.98) and quite far from factors 2 (-0.97) and 3 (-0.85). Thus, firms within this cluster employ a combination strategy where their emphasis is focused on elements of a

differentiation strategy. Their strategic direction places an emphasis on product quality (factor loading 0.694); personal attention to clients (factor loading 0.684); established reputation (factor loading 0.683); specialised expertise, products, or services (factor loading 0.586); speed of service (factor loading 0.583); and range of expertise, products or services (factor loading 0.524). Thus, firms in this cluster appear to focus on product-image differentiation, and quality as the basis for both differentiation and cost advantages (previous studies have supported similar findings, such as Deming, 1982; Cho & Lee, 1993; and Pruet & Thomas, 1996) rather than the generic term of differentiation or cost leadership as was given by Porter (1980).

Cluster 4 (n=216) is dominated 46 per cent by micro firms (small firms consist of 31 per cent and medium-sized by 23 per cent). Likewise to Cluster 3, firms in this cluster are mainly manufacturers of auto and truck parts (22 per cent), miscellaneous capital goods (15 per cent), and printing (12 per cent). Similarly to the cluster 1, 2, and 3, this cluster is dominated by firms that have been operating more than 20 years in their industry (73 per cent). 18 per cent of those firms have been established the last 10 years and 9 per cent for less than 5 years. Cluster 4 is similar to factor 1 (0.79) and factor 3 (0.66) and quite far from factor 2 (-0.13). This cluster can be characterised a pure combination strategy as firms fully combine both elements of differentiation and cost leadership strategies. Although this cluster is quite similar to cluster 3 in terms of their characteristics (firm size composition, experience of firms in the marketplace, and industry) firms differ in the synthesis of their strategy. This cluster's strategic direction places an emphasis similar to cluster 3 (on product quality; personal attention to clients; established reputation; specialised expertise, products, or services; speed of service; and range of expertise, products or services) but as well strongly on price (factor loading 0.886), cost advantages (factor loading 0.856); and speed of service (factor loading

0.408). The strategic synthesis of this cluster is not supported by Porter (1980). However, a number of studies (Phillips et al., 1983; Miller & Friesen, 1986; Kim & Lim, 1988; Yamin et al., 1999; Lau, 2002; and Allen et al., 2007) have provided supportive evidence that firms combine elements of both strategies.

Cluster 5 (n=263) is formed mainly by micro firms (40 per cent). The remaining firms are small (33 per cent) and medium-sized (27 per cent). Firms in this cluster are mainly manufacturers of miscellaneous capital goods (15 per cent), auto and truck parts (13 per cent), printing (13 per cent), and electronics (10 per cent). Compared to previous clusters, this cluster is dominated by firms that have been operating more than 20 years in their industry (87 per cent). Only five per cent of those firms have been established for at least 10 years and nine per cent for less than 5 years. Cluster 5 is similar to factor 2 (0.93) and factor 3 (0.7) and far from factor 1 (-0.16). Similarly to cluster 4, this cluster can be characterised as a pure combination strategy as firms fully combine both elements of differentiation and cost leadership strategies. Although they appear to be firms combining elements of both strategies, their synthesis is different to cluster 4 as they employ different elements of the differentiation strategy. Examining the components produced by factor analysis firms in cluster 5 place an emphasis on price (factor loading 0.886), cost advantages (factor loading 0.856), flair and creativity (factor loading 0.758), product design (factor loading 0.732), marketing and promotion skills (factor loading 0.598), range of expertise, products or services (factor loading 0.493), specialised expertise, products or service (factor loading 0.453), and speed of service (factor loading 0.408). Similarly to Cluster 4, the strategic synthesis of this cluster is not supported by Porter (1980). However, a number of studies (Phillips et al., 1983); Miller & Friesen, 1986; Kim & Lim, 1988; Yamin et al., 1999; Lau, 2002; and Allen et

al., 2007) have provided supportive evidence that firms combine elements of both strategies.

Cluster 6 (n=170) is dominated by 49 per cent by micro firms (small firms consist of 29 per cent and medium-sized by 22 per cent). Likewise to Cluster 3, firms in this cluster are mainly manufacturers of miscellaneous capital goods (18 per cent), auto and truck parts (17 per cent), and printing (12 per cent). Similarly to previous clusters, this cluster consists of firms operating for more than 20 years in their industry (60 per cent). 27 per cent of those firms have been established the last 10 years and 12 per cent for less than 5 years. Cluster 6 is similar to factor 3 (0.57) and very far from factor 1 (-0.60) and factor 2 (-1.26). Thus, firms within this cluster employ a combination strategy where their emphasis is focused on elements of a cost leadership strategy. This cluster's strategic direction places an emphasis completely different to previous clusters and consists of price (factor loading 0.886), cost advantages (factor loading 0.856), and speed of service (factor loading 0.408). The strategic synthesis (cost advantages and service differentiation) of this cluster differs from the previous ones as their emphasis is given a combined strategy with emphasis on cost leadership.

To summarise the data analysis produced a variety of clusters with different emphasis on elements of competitive strategy. There are clusters such as cluster 1 that fit to the description of a differentiation strategy and as was given by Porter (1980) and investigated by other studies (i.e. Hall, 1980; Dess & Davis, 1984; Green et al., 1993; Marques et al., 2000; Cater & Pucko, 2005). On the contrary, the analysis supported studies (i.e. Kim & Lim, 1988; Yamin et al., 1999; Wright et al., 1991; Lau, 2002) that investigated the use of combination strategies. In this project, the analysis identified four clusters that are forms of a combination strategy. Contrary to the previous studies,

the data analysis in this project 4431, identified a cluster which can be positioned as a group of firms that do not have a clear strategic direction. This cluster could possibly be characterised, and following the description given by Spanos et al. (2004), as a group of firms that do not have a clear strategic direction. In addition, the cluster analysis did not produce any clusters that employ a cost leadership strategy - only cluster 6 in which firms employ a combination strategy with emphasis on cost leadership.

4.3.4 Project 4431: Performance Analysis & Competitive Strategy Fit

The null hypothesis has been set with the purpose of testing the strategic direction of UK MSMEs in relation to their performance. As was stated in Section 2.6.5 in this thesis, there is no consensus on the appropriateness of various performance variables and measures (i.e. Venkatraman & Ramanuajam, 1986; Beal, 2000; Parnell, 2002). According to Beal (2000), the complexity of performance does not assist strategy researchers to appropriately identify and employ valid performance variables to examine in relation to strategy formulation. This thesis recognising the difficulty in measuring firm performance employed two of the most commonly used variables in a number of studies (for instance, White, 1986; Miller & Dess, 1993; Marques et al., 2000; Spanos & Lioukas, 2001; Lau, 2002; Lumpkin & Dess, 2006): turnover and pre-tax profit/losses change over a period of three years.

Based on the discussion which took place in section 4.2.3 each cluster produced by the K-means method is compared to a number of performance variables (in this study, firms' turnover and pre-tax profit/losses). Hence, each cluster's performance is evaluated in relation to their strategic choice and direction. *Table 4.4* shows means, standard variations and coefficient of variation for each cluster.

Cluster 1 employs a differentiation strategy and although it has the lowest performance in terms of turnover (COV=0.013), it has the highest pre-tax profits (COV=0.029)

compared to other clusters. The strategy-performance relationship here appears to be odd; according to Porter (1980) differentiators invest heavily with the purpose to gaining higher returns. Yet, firms in cluster 1 have lowest turnover achieved in the study sample. On the other hand, they have the highest pre-tax profits which contradict the strategy-performance relationship. This finding was unexpected and suggests that firms in cluster 1 (and despite of employing a differentiation strategy) are focusing on controlling their costs. However, this result has not been described by previous studies and suggests that firms within this cluster are not performing well. A possible explanation for this might be that that their intentions are to be differentiators rather than cost leaders but their circumstances have forced them to focus in controlling their costs. It is suggested that firms within this cluster should be re-examined by integrating additional strategic variables that relate to cost leadership rather than just differentiation. Therefore, the results indicate that the strategic synthesis of cluster 1 might not be useful for UK MSMEs as there are weaknesses in relation to strategy chosen and firm performance.

Remarkably, Cluster 2, which does not have a clear strategic direction, shows the highest performance in relation to turnover (COV=0.020) and compared to other clusters. However, it has the lowest pre-tax profit (COV=0.016). The nature of this cluster is not supported by the majority of previous empirical research but supports the findings presented by Spanos et al, (2004) in which firms with no clear strategic direction produce average performance compare to other clusters. The most interesting finding is that this cluster has the highest turnover generated but appears to be weak in relation to pre-tax profits. The strategic direction of this cluster is similar to what Porter (1980) defined as 'stuck in the middle'. In contrast to Porter's definition, however, this cluster appears to perform well in terms of turnover generated. Similarly to the

previous cluster, it is advisable to investigate further the analysis of the strategic direction of this cluster by introducing additional variables.

Table 4.4: Means, Standard Variations & Coefficient of Variation – Project: 4431

Cluster Number of Case	Cluster's Strategic Direction	Turnover, latest, in thousand pounds			Pre-tax profits/losses, latest, in thousand pounds		
		Mean	SD	COV	Mean	SD	COV
1	DS	£2499,251	£3194,2813	0.013	£247,440	£721,3553	0.029
2	NCS	£3467,414	£7011,2783	0.020	£227,802	£362,4315	0.016
3	CS (<DS)	£1939,388	£2833,5118	0.015	£201,454	£373,2439	0.019
4	CS	£2252,578	£3611,5634	0.016	£196,902	£309,6379	0.016
5	CS	£2858,845	£4104,5948	0.014	£211,046	£466,3565	0.022
6	CS (<LC)	£2244,537	£3804,7077	0.017	£155,008	£275,6645	0.018

Key:	
COV	Coefficient of Variation
DS	Differentiation Strategy
NCS	No Clear Strategic Direction
CS (<DS)	Combination Strategy (emphasis on Differentiation Strategy)
CS	Combination Strategy
CS (<LC)	Combination Strategy (emphasis on Cost Leadership Strategy)

Firms within cluster 3 employ a combination strategy with strong emphasis on differentiation. Their performance in relation to turnover is perceived to be lower (COV=0.015) than other clusters and their pre-tax profit is lower (COV=0.019) but not as low as for other clusters. This finding is in agreement with Porter's (1980) statement that firms employing a combination strategy do not perform well and results produced by a number of previous studies (i.e. Dess & Davis, 1984; Marques et al., 2000; Silva et al., 2000; Lumpkin & Dess, 2006).

Cluster 4 consists of firms with a combination strategy and their performance in relation to turnover generated is quite low (COV=0.016) but as not as low as other clusters. Their pre-tax profit (COV=0.016) is perceived as the lowest compared to other clusters.

The findings of the data analysis of this cluster are similar to Cluster 3 and therefore it is recommended that UK MSMEs should not adopt this strategic synthesis.

Cluster 5 consists of firms employing a combination strategy too. However firms are perceived to have the lowest performance in relation to turnover (COV=0.014), they possess quite high pre-tax profits and relatively higher than the average (COV=0.022). This cluster can be compared to cluster 1, in which firms employ a differentiation strategy. Both have low turnover but high pre-tax profits. This result may be explained by the fact that firms' differentiating efforts have not produced the anticipated outcome (low turnover) but at the same time have managed to control their costs (high pre-tax profits). This finding partially has been supported by previous studies but similarly to clusters 3 and 4 it is recommended that UK MSMEs should not adopt such strategic direction.

Finally, cluster 6 consists of firms that employ a combination strategy with emphasis on cost leadership. Their turnover performance is quite low (COV=0.017) compare to other clusters but is not perceived as the lowest. In addition, their pre-tax profit is perceived as one of the lowest (COV=0.018) compare to the other clusters. Similarly to clusters 3, and 4, cluster 6 has produced low performance in relation to their chosen strategic synthesis and thus it is advisable to UK MSMEs to avoid adopting a similar strategy.

The findings of the data analysis in this project partially support the null hypothesis. On the one hand, the data analysis confirms that differentiators (cluster 1) have achieved high performance but in relation to pre-tax profits and not turnover. This finding indicates that firms are controlling their costs and is very interesting and has not

previously been described by previous studies. However, more research on this type of cluster needs to be undertaken before the association between performance of this cluster and its strategic direction is more clearly understood. These results therefore need to be interpreted with caution.

On the other hand, the data analysis in this project did not produce any clusters that are pure cost leaders. A possible explanation for this might be the limited number of strategic variables that relate to cost leadership. Moreover, the findings support the combination form of competitive strategies. An interesting finding here is that the combination strategies have not performed well. The only exception is cluster 5 that has achieved higher pre-tax profits but not as high as cluster 1. Additionally, the best performing cluster is cluster 2 that has no clear strategic direction. This finding contradicts Porter's definition of competitive strategies and some published studies (i.e. Phillips et al, 1983; Green et al., 1993; Yamin et al., 1993; Marques et al., 2000; Silva et al., 2000; Lumpkin & Dess, 2006), they are consistent with those of Spanos & Lioukas (2001). Another important finding was that of the various forms of combination strategies, and the fact that not all combinations can lead to higher firm performance. This finding has important implications for UK MSMEs when developing successful competitive strategies and especially when they choose the characteristics of their strategic synthesis.

To conclude, the present results are significant in at least major three respects: Porter's differentiation strategy appears to produce performance that relates to pre-tax profits only and not turnover generated. However, this result has not been previously described and identified by a number of studies. An implication of this is the possibility that firms that want to achieve higher performance will employ a differentiation strategy that only

will assist them in achieving higher pre-tax profits but not turnover. The researcher suggests that this cluster should further be investigated by adding more strategic variables that relate to cost leadership strategy. Second, a possible implication for UK MSMEs is that not all of the forms of combined strategy can lead to higher performance. Third, one of the issues that emerges from these findings is that firms with no clear strategic direction appear to perform better than others. This has many implications for UK MSMEs but the researcher advises that the data must be interpreted with caution. As was mentioned in Chapter 3 the number of strategic variables investigated in a study is very important. Thus, it is suggested that the above clusters should be investigated further by adding more strategic variables that relate to cost leadership.

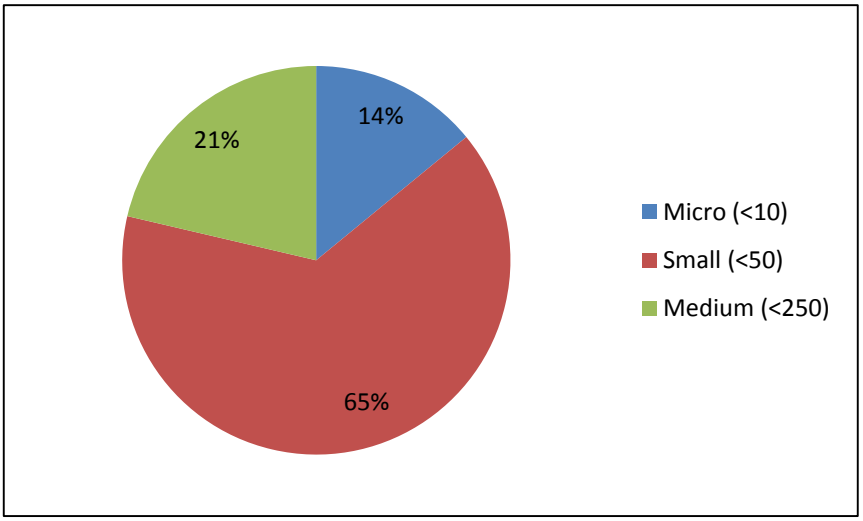
4.4 Data Analysis for Project: 4434 (Cambridge Centre for Business Research Manufacturing Strategy & Competitiveness Dataset 1994-1999)

Based on the analytical tools presented in the previous section, here a discussion of the results for Project 4434 is given.

4.4.1 Project 4434: Operational Facets

A number of operational facets are given in this project. Thus, a discussion will take place in relation to firms' industry environment, and respondents' firm size based on the number of employees. Such an analysis is useful because it provides an overall view of the sample and the respondents that took part in the survey. The 178 respondents operate in diverse industrial environments within the manufacturing sector. Firms within the dataset are classified based on the UK's SIC92 code and are similar to Project 4431 categories (refer to section 5.3).

Figure 4.3: Project 4434 - Respondents Firm Size



4.4.2 Project 4434: Factor Analysis

This study uses factor analysis (refer to Section 4.2.1) to identify the preferred competitive strategies of UK MSMEs. Based on the results reported in *Appendix 4 – section 4a,* all variables correlate fairly well and none of the correlation coefficients are particularly large. Thus, there is no need to consider eliminating any variables. This study examines the results from the rotated factor matrix (refer to *Table 4.5*).

Factor 1 consists of low price, low labour costs, low materials consumption, low energy consumption, and low inventory costs. As was demonstrated in *Table 3.3* in Section 3.6.1.2, all the above loadings with the exception of low price are characterised as elements of a cost leadership strategy. Low price could be an element of both differentiation and cost leadership strategy. Thus, factor 1 can be considered as a cost leadership strategy.

Factor 1 consists of low price, low labour costs, low materials consumption, low energy consumption, and low inventory costs. As was demonstrated in *Table 3.3* in Section

3.6.1.2, all the above loadings with the exception of low price are characterised as elements of a cost leadership strategy. Low price could be an element of both differentiation and cost leadership strategy. Thus, factor 1 can be considered as a cost leadership strategy.

Factor 2 consists of product reliability, meeting customer due dates, customer service, conformance quality (low defect rates), and performance quality (high performance products). Based upon the variable definitions given in *Table 3.3* in Section 3.6.1.2, all the above loadings with the exception of conformance quality (low defect rates) are characterised as elements of a differentiation strategy. Hence, factor 2 can be defined as a combination strategy with a strong emphasis on differentiation strategy (by 80 per cent).

Factor 3 loadings indicate elements of new product introduction, product features, product reliability, and product variety. As was demonstrated in *Table 3.3* in Section 3.6.1.2, all the above loadings are elements of a differentiation strategy.

Factor 4 loadings consist of custom manufacture, meeting customer dates, and newly introduced production processes or equipment. Based upon the variable definitions given in *Table 3.3* in Section 3.6.1.2, all the above loadings with the exception of newly introduced production processes or equipment are elements of a differentiation strategy. Hence, factor 4 can be defined as a combination strategy with a strong emphasis on differentiation strategy (by 66.7 per cent).

Once again, SPSS 16.0 for Windows was instructed to save factor variables for the principal components produced from the competitive strategy. These factor variables are used in the cluster analysis.

Table 4.5: Factor Analysis and Rotated Component Matrix (Project Code: 4434)

	Component			
	1	2	3	4
New product introduction			0.861	
Product features			0.875	
Product reliability		0.459	0.472	
Product variety			0.651	
Custom manufacture				0.824
Meeting customer due dates		0.556		0.496
Customer service		0.731		
Low price	0.572			
Newly introduced production processes or equipment				0.607
Conformance quality (low defect rates)		0.761		
Performance quality (high performance products)		0.782		
Low labour costs	0.780			
Low materials consumption	0.814			
Low energy consumption	0.828			
Low inventory costs	0.806			

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

4.4.3 Project 4434: Cluster Analysis

Based on the discussion presented in Section 4.2, this thesis employs cluster analysis of the questionnaire results with the purpose of identifying forms of strategic groups that employ similar competitive strategies.

Similarly to the previous project 4431 Ward's method is employed to gain an idea of possible clusters. Because of the very large dataset, the researcher studied the agglomeration schedule as it was easier to study the formation of clusters. Thus, by looking at the coefficients in *Appendix 4 – section 4b*, it is obvious that the coefficients increase consistently until the final five, where there is a marked increase (it is more obvious in *Figure 4.4* which shows the Scree diagram and identifies the step where the distance coefficients make a marked increase – highlighted with a red circle). This

suggests (based on the guidelines given by SPSS, 2004) that there are five clusters. As the agglomeration schedule is extremely large (refer to *Appendix 4 – section 4b*), the researcher has not included all the coefficients (it would not be readable otherwise).

Figure 4.4: Scree Diagram – Project 4434

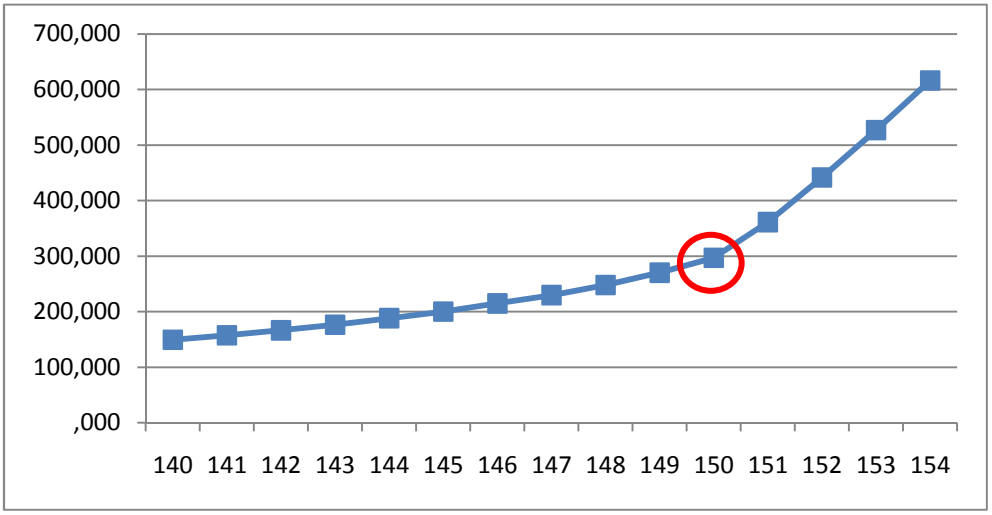


Table 4.6: Final Cluster Centres (Produced by SPPS) – Project 4434

	Cluster				
	1 (n=26)	2 (n=45)	3 (n=34)	4 (n=30)	5 (n=20)
Factor 1: Cost Leadership Strategy	-0.85598	-,34922	1,22699	-,01894	-,15895
Factor 2: Combination Strategy (with strong emphasis on differentiation strategy)	0.47977	,23233	,26514	,17256	-1,85600
Factor 3: Differentiation Strategy	0.07140	,60338	,49760	-1,58347	,07883
Factor 4: Combination Strategy (with strong emphasis on differentiation strategy)	-1,16454	,86329	-,38948	,33793	-,27328

Note: there are 25 missing values

Similarly to project 4431, the researcher repeated the analysis by choosing the k-means method. Here, the number of clusters was set as five (the number produced by the

hierarchical analysis). The final cluster centres are shown in *Table 4.6* and describes the synthesis of each group in relation to others.

Cluster 1 (n=26) characterises about the 16,8 per cent of the UK MSMEs in the sample, and there are mainly small firms (77 per cent) but as well micro (12 per cent), and medium (12 per cent) enterprises. Firms within this cluster are mainly manufacturers of other manufacturing not elsewhere classified (58 per cent), electronics (23 per cent), and scientific & technical instruments (15 per cent). The majority of firms are 20+ years old (65 per cent); 31 per cent have been operating for approximately 10 years; and the remaining four per cent for less than five years. Cluster 1 is similar to factor 2 (0.47) that is defined as a combination strategy with an emphasis on differentiation strategy and very far from factor 4 (-1.16), factor 1 (-0.85), and factor 3 (0.07). Thus, cluster 1 consists of firms employing a combination strategy with a strong emphasis on differentiation strategy. Companies within this cluster consider product quality as very important and emphasise their strategic direction in performance quality and high performance products (factor loading = 0.782), conformance quality with low defect rates (factor loading = 0.761), good customer service (factor loading = 0.731), meeting customer due dates (factor loading = 0.556), and product reliability (factor loading = 0.459). Thus, firms in this cluster appear to focus on product-image differentiation, and quality as the basis for both differentiation and cost advantages (previous studies have supported similar findings, such as Deming, 1982; Cho & Lee, 1993; and Pruet & Thomas, 1996) rather than the generic term of differentiation or cost leadership as was given by Porter (1980).

Cluster 2 (n=45) consists of 29 per cent in the sample and the majority of enterprises are characterised as small firms (60 per cent). The remaining companies are micro (27 per

cent) and medium-sized (13 per cent). Firms within this cluster are mainly manufacturers of other manufacturing not elsewhere classified (60 per cent), electronics (18 per cent), and scientific & technical instruments (16 per cent). Similarly to Cluster 1, firms in Cluster 2 have been operating for over 20 years (60 per cent); 36 per cent have commenced operations the last 10 years (12 per cent); and at a lesser degree have been operating for five years (four per cent). Cluster 2 is very far from factor 1 (-0.34) and similar to factors 3 and 4. Thus, this cluster can be characterised as firms that employ a combination strategy with strong emphasis on differentiation. Their strategic direction places a strong emphasis on product features (factor loading = 0.875); new product introduction (factor loading = 0.861); custom manufacture under customers request (factor loading = 0.824); variety of product range (factor loading = 0.651); focus on introducing new product processes or equipment (factor loading = 0.607); meeting customer due dates (factor loading = 0.496); and product reliability (factor loading = 0.472). Obviously this cluster places an emphasis on their product range and their related features (compared to cluster 1 where they emphasise the importance of quality). The strategic synthesis of this cluster is as well not supported by Porter (1980).

Cluster 3 (n=34) characterises about the 21.9 per cent of the UK MSMEs in the sample, and there are mainly small firms (71 per cent) but as well micro (12 per cent), and medium (18 per cent) enterprises. Firms within this cluster are mainly manufacturers of other manufacturing not elsewhere classified (62 per cent), electronics (21 per cent), and scientific & technical instruments (nine per cent). The majority of firms are 20+ years old (68 per cent); 29 per cent have been operating for approximately 10 years; and the remaining three per cent for less than five years. Cluster 3 is similar to factor 3 (0.49) and quite far from factor 4 (-0.38). Thus, firms within this cluster employ a differentiation strategy. Companies within this cluster consider products as very

important and emphasise their strategic direction in product features (factor loading = 0.875), new product introduction (factor loading = 0.861), product variety (factor loading = 0.651), and product reliability (factor loading = 0.472). Thus, firms in this cluster appear to focus on product differentiation (previous studies have supported similar findings, such as Miller, 1986; Mintzberg, 1988; and Bowman, 1996) rather than the generic term of differentiation as was initially given by Porter (1980).

Cluster 4 (n=30) consists of 19.3 per cent in the sample and the majority of enterprises are characterised as small firms (60 per cent). The remaining companies are micro (17 per cent) and medium-sized (23 per cent). Firms within this cluster are mainly manufacturers of other manufacturing not elsewhere classified (57 per cent), and electronics (30 per cent). Similarly to Cluster 1, 2, and 3 firms in Cluster 4 have been operating for over 20 years (73 per cent); and 30 per cent have commenced operations the last 10 years (12 per cent). Contrary to the previous clusters, in this cluster, there are no firms that have started operating for less than five years. Cluster 4 is similar to factor 4 (0.33) and very far from factor 3 (-1.58). This cluster can be characterised as a combination strategy with emphasis on differentiation strategy. Their strategic direction places a strong emphasis on custom manufacture under customers request (factor loading = 0.824), focus on introducing new product processes or equipment (factor loading = 0.607), and meeting customer due dates (factor loading = 0.496). Correspondingly to Clusters 1 and 2, the strategic synthesis of this cluster is not supported by Porter's typology of generic strategies.

Cluster 5 (n=20) is the smallest amongst the previous ones and characterises about the 12.9 per cent of the UK MSMEs in the sample, and there are mainly small firms (65 per cent) but as well micro (20 per cent), and medium (15 per cent) enterprises. Firms

within this cluster are mainly manufacturers of other manufacturing not elsewhere classified (60 per cent), electronics (20 per cent), scientific & technical instruments (10 per cent); and chemicals (10 per cent). This cluster differs from all the previous ones, because 50 per cent have been established for over 20 years and 50 per cent for approximately 10 years. Cluster 5 is very far from factor 2 (-1.85) and not particularly similar to any other cluster. Thus, this cluster has no clear strategic direction.

Similarly to the results presented previously in project 4431, here the data analysis produced a variety of clusters with different emphasis on elements of competitive strategy. There are clusters such as cluster 3 that fits partially to the description of a differentiation strategy and as was given by Porter (1980) and investigated by other studies (i.e. Hall, 1980; Dess & Davis, 1984; Green et al., 1993; Marques et al., 2000; Cater & Pucko, 2005). On the contrary, the analysis supported studies (i.e. Kim & Lim, 1988; Yamin et al., 1999; Wright et al., 1991; Lau, 2002) that investigated the use of combination strategies. In this project, the analysis identified three clusters that are forms of a combination strategy. Contrary to the previous studies but similarly to project 4431, the data analysis in this project 4434, identified a cluster which can be characterised as a group of firms that do not have a clear strategic direction. This cluster could possible embody, and following the description given by Spanos et al. (2004), as a group of firms that do not have a clear strategic direction. In addition, the cluster analysis did not produce any clusters that employ a cost leadership strategy.

4.4.4 Project 4434: Performance Analysis & Competitive Strategy Fit

As discussed in Section 4.3.4, the null hypothesis has been set with the purpose of testing the strategic direction of UK MSMEs in relation to their performance. Similarly to the analysis of strategy-performance of project 4431, this thesis recognises the difficulty

in measuring firm performance. To tackle this issue, this study employed two of the most commonly used variables in a number of studies (for instance, White, 1986; Miller & Dess, 1993; Marques et al., 2000; Spanos & Lioukas, 2001; Lau, 2002; Lumpkin & Dess, 2006): turnover and pre-tax profit/losses change over a period of three years. Based on the discussion that took place in section 4.2.3, each cluster produced by the K-means method is compared to a number of performance variables (in this study, firms' turnover and pre-tax profit/losses). Hence, each cluster's performance is evaluated in relation to their strategic choice and direction. *Table 4.7* exhibits the clusters produced.

Table 4.7: Means, Standard Variations & Coefficient of Variation – Project: 4434

Cluster Number of Cases	Cluster's Strategic Direction	Turnover, latest, in thousand pounds			Pre-tax profits/losses, latest, in thousand pounds		
		Mean	SD	COV	Mean	SD	COV
1	CS (<DS)	2783,150	2775,245	0.010	389,040	588,9950	0.015
2	CS (<DS)	3576,490	4701,110	0.013	350,280	562,0680	0.016
3	DS	2259,730	2310,124	0.010	400,650	1263,4910	0.032
4	CS (<DS)	2053,590	2219,142	0.011	223,230	332,1020	0.015
5	NCS	2217,680	2106,096	0.009	167,560	214,2950	0.013

Key:	
DS	Differentiation Strategy
NCS	No Clear Strategic Direction
CS (<DS)	Combination Strategy (emphasis on Differentiation Strategy)
CS	Combination Strategy
CS (<LC)	Combination Strategy (emphasis on Cost Leadership Strategy)

Cluster 1 employs a combination strategy with emphasis on product-image differentiation and has the lowest performance in terms of turnover (COV=0.010), and pre-tax profits (COV=0.015) compared to other clusters.

Cluster 2 employs a combination strategy with emphasis on product differentiation and has the highest performance in terms of turnover (COV=0.013), and low performance in terms of pre-tax profits (COV=0.016) compared to other clusters.

Firms within cluster 3 employ a product differentiation strategy and have low performance in terms of turnover (COV=0.010). Yet, they have the highest performance in relation to pre-tax profits (COV=0.032) compared to other clusters. Similarly to Cluster 1 of project 4431, the strategy-performance relationship here appears to be odd; according to Porter (1980) differentiators invest heavily with the purpose to gaining higher returns. Yet, firms in cluster 3 have the lowest turnover achieved in the study sample. On the other hand, they have the highest pre-tax profits which contradict the strategy-performance relationship. Hence, cluster 3 although fitting the requirements of Porter's description of a differentiation strategy might not be useful for UK MSMEs as there are weaknesses in relation to performance.

Cluster 4 consists of firms that employ a combination strategy with emphasis on differentiation and have low turnover performance (COV=0.011). Their pre-tax profit (COV=0.015) is perceived as the lowest compared to other clusters.

Cluster 5 consists of firms that do not possess a clear strategic direction. Their performance in terms of turnover (COV=0.009) and pre-tax profits (COV=0.013) are considered the lowest compared to every other cluster. A similar cluster (number two) produced the data analysis in project 4431 and in a study carried out by Spanos et al. (2004). Contrary to Cluster 2 of project 4431, this cluster has produced the lowest performance. These differences can be explained in part by the differences in strategic variables employed in both projects. The researcher suggested in Chapter 3 that the

choice as well the number of strategic variables used in a study might affect its outcome. It is therefore suggested that this cluster should be investigated further.

The findings of the data analysis in this project partially support the null hypothesis. On the one hand, the data analysis confirms that differentiators (cluster 3) have achieved high performance but in relation to pre-tax profits and not turnover. As was discussed previously in project 4431, this finding indicates that firms are controlling their costs and is very interesting as has not previously been described by previous studies. However, more research on this type of cluster needs to be undertaken before the association between performance of this cluster and its strategic direction is more clearly understood. Those results therefore need to be interpreted with caution.

On the other hand, the data analysis in this project did not produce any clusters that are pure cost leaders. A possible explanation for this might be the limited number of strategic variables that relate to cost leadership. Moreover, the findings support the combination form of competitive strategies. More precisely, cluster 2 has achieved the highest performance in terms of turnover generated and compared to all other clusters. Although, these results differ from Porter's definition of competitive strategies and some published studies (i.e. Green et al., 1993; Marques et al., 2000; Silva et al., 2000;Lumpkin & Dess, 2006), they are consistent with those of Phillips et al. (1983), Yamin et al. (1999), Spanos et al. (2004), and Allen et al. (2007). Another important finding was that of the various forms of combination strategies, and the fact that not all combinations can lead to higher firm performance. This finding has important implications for UK MSMEs when developing successful competitive strategies and especially when they choose the characteristics of their strategic synthesis.

To conclude, the present results are significant in at least major two respects: Porter's differentiation strategy appears to produce performance that relates to pre-tax profits only and not turnover generated (and is supported by the findings of the previous project 4431). However, this result has not been previously described and identified by previous studies. An implication of this is the possibility that firms that want to achieve higher performance will employ a differentiation strategy that only will assist them in achieving higher pre-tax profits but not turnover. The researcher suggests that this cluster should be further investigated by adding more strategic variables that relate to cost leadership strategy. Second, a possible implication for UK MSMEs is that not all of the forms of combined strategy can lead to higher performance. However, this finding is consistent with a number of previous studies (i.e. Spanos et al. 2004; Allen et al., 2007).

4.5 Questionnaire Survey

As was discussed earlier, although the previous two projects provide a good overview of firms' strategic synthesis and performance, there is a limitation in relation to the number of variables used. Hence, this study has employed a questionnaire survey to investigate in depth the competitive strategy synthesis of UK's MSMEs.

Similarly to the previous two projects, this thesis will provide an overview of the operational facets. Then, preferred competitive strategies are examined by using factor analysis. To identify strategic groups with similar strategic synthesis hierarchical and k-means clustering methods are employed. Finally, to test the clusters' performance in relation to chosen strategic direction this thesis uses the coefficient of variation method.

4.5.1 Operational Facets

The 182 respondents operate in diverse industrial environments within the manufacturing sector. Nearly all firms responded belong to a different industry setting within the manufacturing sector and are similar to SIC codes used in projects 4431 and 4434. *Figure 4.5* shows that the 11 per cent of the respondents were micro companies, the 25 per cent were small companies and the 64 per cent were medium companies. Thus, medium companies dominate the majority of the firms within the survey. This has an implication to data analysis because it will not allow for further investigation of competitive strategies based on the firm size.

4.5.2 Questionnaire Survey: Factor Analysis

This study uses factor analysis (refer to Section 4.2.1) to identify the preferred competitive strategies of UK MSMEs. Based on the results reported in *Appendix 5 – section 5a,* all variables correlate fairly well and none of the correlation coefficients are particularly large. Thus, there is no need to consider eliminating any variables. The final table that is reported in *Appendix 5 – section 5a* relates to the rotated component matrix. *Table 4.8* shows the rotated component matrix and there are ten factors identified.

Figure 4.5: Respondents' Firm Size

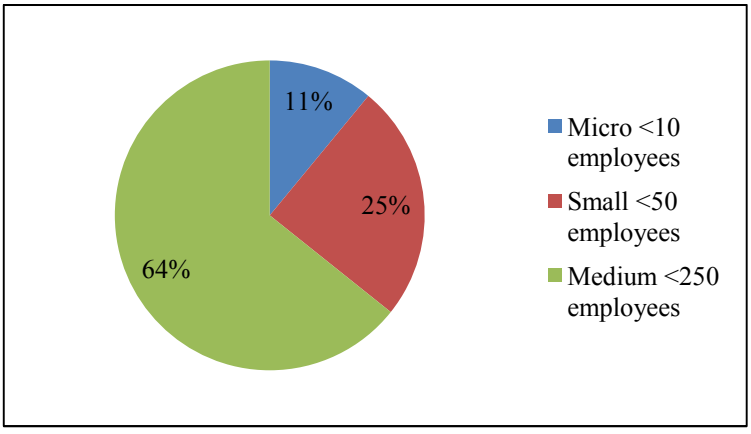


Table 4.8: Factor Analysis and Rotated Component Matrix (Questionnaire Survey)

	Component									
	1	2	3	4	5	6	7	8	9	10
identification of under performing areas in order to cut costs		0.652								
charging lower prices							0.894			
The development of brand strategy and name		-0.433	-0.458				-0.364			
The investment in sales promotion as a tool to approach customers and increase profits							-0.596	-0.368		
Focusing on inventory management to improve stock control								0.875		
The reduction of labour input through mechanisation & automation			0.771							
The offering of a broad range of products				-0.900						
The development of a continuous improvement process in employees' skills				0.363					0.706	
The provision of sufficient facilities to support the quality of services										0.943
The achievement of an increased precision through the production lines by reducing defects				0.654						
The investment in advertising as a tool to approach customers		-0.440			0.495					
Focusing on product design techniques that economise on costs of materials									-0.607	-0.431
Making conscious efforts to differentiate your services and products from your competitors			-0.308		-0.552	-0.312	-0.307			
The provision of services that meet competitive quality standard						-0.750				
The possession of a process to utilise your automation technologies			0.805							
The continuous maintenance and use of loyalty schemes					0.810					
The continuous exercise of tight cost controls and attention to detail		0.603				0.371			-0.307	
The performing of incremental improvements in coordination & organisational structure						0.811				
The continuous developments on new products	-0.378	-0.312	-0.314	-0.332	-0.496					
The improvement of supplier logistics in terms of cost control	0.439	0.669								
The continuous improvement of supplier logistics in terms of quality	0.732									
The continuous improvement of supplier logistics in terms of delivery/lead time	0.579							0.465		
Focusing on product design techniques that facilitates automation	-0.464		0.414	0.371					-0.340	
Focusing on improving product packaging	-0.668				0.396					

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 20 iterations.

Factor 1 consists of the continuous developments on new products, the improvement of supplier logistics in terms of cost control, the continuous improvement of supplier

logistics in terms of quality, the continuous improvement of supplier logistics in terms of delivery/lead time, focusing on product design techniques that facilitate automation, and focusing on improving product packaging. As was demonstrated in Section 5.2 the continuous developments on new products, focusing on improving product packaging, and the continuous improvement of supplier logistics in terms of quality are elements of a differentiation strategy whereas the improvement of supplier logistics in terms of cost control, the continuous improvement of supplier logistics in terms of delivery/lead time, and focusing on product design techniques that facilitates automation are characteristics of a cost leadership strategy. Thus, factor 1 can be considered as a pure combination strategy.

Similarly, factor 2 loadings consist of the identification of under performing areas in order to cut costs, the development of brand strategy and name, the investment in advertising as a tool to approach customers, the continuous exercise of tight cost controls and attention to detail, the continuous developments on new products, and the improvement of supplier logistics in terms of cost control. Loadings such as identification of underperforming areas in order to cut costs; the continuous exercise of tight cost controls and attention to detail; and the improvement of supplier logistics in terms of cost control are elements of a cost leadership strategy whereas the development of brand strategy and name; the investment in advertising as a tool to approach customers; and the continuous developments on new products are characteristics of a differentiation strategy. Hence, factor 2 can be considered as a pure combination strategy.

Factor 3 loadings consist of the development of brand strategy and name; making conscious efforts to differentiate your services and products from your competitors; and

the continuous developments on new products which are characteristics of a differentiation strategy. The reduction of labour input through mechanisation & automation; the possession of a process to utilise your automation technologies, and the improvement of supplier logistics in terms of cost control are elements of a cost leadership strategy. Therefore, factor 3 can be characterised as a pure combination strategy.

Factor 4 loadings such as the offering of a broad range of products; and the continuous developments on new products are elements of a differentiation strategy whereas loadings such as the achievement of an increased precision through the production lines by reducing defects, and focusing on product design techniques that facilitates automation are elements of a cost leadership strategy. Factor 4 can be characterised as combination strategy with an emphasis on cost leadership (by 60 per cent).

Factor 5 loadings such as the investment in advertising as a tool to approach customers, making conscious efforts to differentiate your services and products from your competitors, and the continuous developments on new products are elements of a differentiation strategy. Focusing on product design techniques that facilitate automation is a characteristic of a cost leadership strategy. Factor 5 loadings indicate a combination strategy with a strong emphasis on differentiation (by 80 per cent).

Factor 6 loadings with the exception of the continuous exercise of tight cost controls and attention to detail are elements of a differentiation strategy. Hence, factor 6 can be considered as a combination strategy with strong emphasis on differentiation strategy (by 75 per cent).

Factor 7 loadings such as the development of brand strategy and name, the investment in sales promotion as a tool to approach customers and increase profits, and making conscious efforts to differentiate your services and products from your competitors are components of a differentiation strategy. The charging of lower prices can be considered as an element of both differentiation and cost leadership strategies. Thus factor 7 can be defined as combination strategy with strong emphasis on differentiation (by 20 per cent).

Factor 8 loadings with the exception of the investment in sales promotion as a tool to approach customers and increase profits are elements of a cost leadership strategy. Factor 8 can be considered as combination strategy with strong emphasis of cost leadership (by 66.6 per cent).

Factor 9 loadings are characteristics of a cost leadership strategy and thus factor 9 can be considered as pure cost leadership strategy.

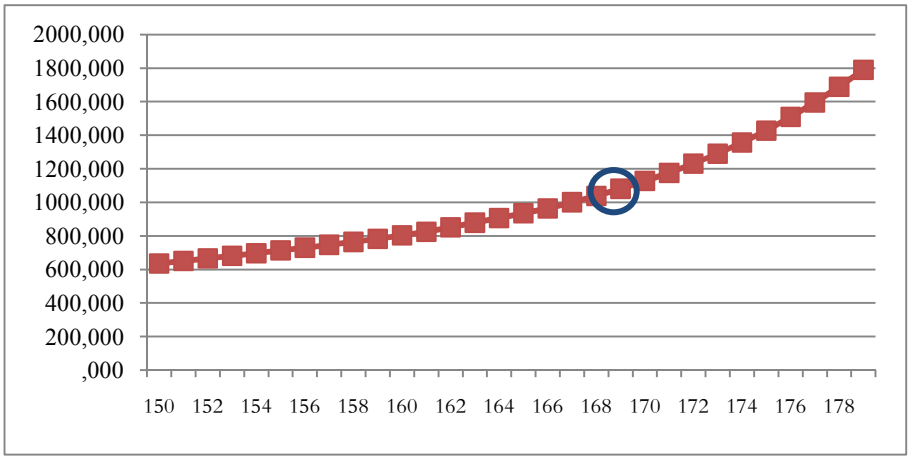
Factor 10 loadings consist of the provision of sufficient facilities to support the quality of services, and focusing on product design techniques that economise on costs of materials. The former loading is an element of a differentiation strategy, whereas the latter of a cost leadership strategy. Thus, factor 10 can be defined as a pure combination strategy.

4.5.3 Questionnaire Survey: Cluster Analysis

Based on the discussion presented in Section 4.2, this thesis employs cluster analysis of the questionnaire results with the purpose of identifying forms of strategic groups that employ similar competitive strategies. Similarly to the previous two projects, Ward's

method is employed to gain an idea of possible clusters. Thus, by looking at the coefficients in *Appendix 5 – section 5b*, it is obvious that the coefficients increase consistently until the final ten, where there is a marked increase (this is more obvious in *Figure 4.6* which shows the Scree diagram and identifies the step where the distance coefficients make a marked increase – highlighted with a blue circle). This suggests (based on the guidelines given by SPSS, 2004) that there are ten clusters.

Figure 4.6: Scree Plot – Questionnaire Survey



Similarly to the previous two projects, the researcher repeated the analysis by choosing the k-means method. Here, the number of clusters was set as ten (the number produced by the hierarchical analysis). The final cluster centres are shown in *Table 4.9* and describes the synthesis of each group in relation to others.

Cluster 1 (n=2) is the smallest one in the sample and characterises about one per cent of the UK MSMEs and there are only firms of medium-sized enterprises. Firms within this cluster are mainly manufacturers of fabricated plastic (50 per cent), and auto and truck parts (50 per cent). Both firms have been operating for over 20 years.

Table 4.9: Final Cluster Centres (Produced by SPPS) – Questionnaire Survey

	Cluster									
	1 (n=2)	**2 (n=3)**	**3 (n=9)**	**4 (n=32)**	**5 (n=31)**	**6 (n=36)**	**7 (n=13)**	**8 (n=24)**	**9 (n=26)**	**10 (n=4)**
Factor 1: Pure Combination Strategy	1,29420	0.44623	0.99099	-0.42072	0.26106	-0.53693	-0.45992	1,09882	-0.29543	-0.21449
Factor 2: Pure Combination Strategy	1,30844	0.37121	-0.13708	-0.16877	-0.09521	0.56825	-0.51949	0.11526	-0.47640	0.44303
Factor 3: Pure Combination Strategy	0.42749	-1,82496	0.57015	0.28508	0.33567	-0.10556	0.73838	-0.82356	0.03539	-1,74827
Factor 4: Combination Strategy with emphasis on Cost Leadership Strategy	0.11341	1,24917	-0.94304	-0.23095	0.54802	0.66862	0.33595	-0.68779	-0.47882	-1,14168
Factor 5: Combination Strategy with emphasis on Differentiation Strategy	-2,85546	-2,60504	-0.67282	0.25269	0.31336	0.35297	-1,10346	0.61599	-0.11118	-2,11846
Factor 6: Combination Strategy with emphasis on Differentiation Strategy	1,76483	-0.51285	-1,20811	0.32032	0.22062	-0.41302	-0.18658	-0.11441	0.58946	-0.87326
Factor 7: Combination Strategy with emphasis on Differentiation Strategy	0.40213	-1,87147	-0.18983	-1,40022	0.56871	0.26359	0.61762	0.16500	0.37331	0.62784
Factor 8: Combination Strategy with emphasis on Cost Leadership Strategy	1,36305	0.91735	1,22910	0.01037	-0.15976	0.17750	0.32924	0.08663	-0.75436	-1,26375
Factor 9: Pure Cost Leadership Strategy	-0.89514	1,44558	0.45300	0.10515	1,22289	-0.54384	-0.49541	-0.37626	-0.53993	0.29728
Factor 10: Pure Combination Strategy	0.13460	-0.70300	-1,05086	0.36886	0.20413	-0.52953	1,17385	0.46022	-0.73394	1,25159

Note: there are 2 missing values

Cluster 1 is similar to factor 6 which is considered as a combination strategy with emphasis on differentiation (1.76); factor 8 which can be defined as combination strategy with emphasis on cost leadership (1,36); factor 2 (1,30), and factor 1 (1,29) which can be described as pure combination strategy. On the contrary, cluster 1 is quite far from factor 5 (-2,85) which is a combination strategy with emphasis on

differentiation.. Thus, cluster 1 consists of firms employing a combination strategy. Companies within this cluster emphasise their strategic direction in inventory management to improve cost control (factor loading = 0.875), incremental improvement in coordination & organisational structure (factor loading = 0.811), the provision of services that meet competitive quality standards (factor loading = -0.750), the continuous improvement of supplier logistics in terms of quality (factor loading = 0.732), cost control (factor loading = 0.669), delivery/lead time (factor loading = 0.579), focusing on improving product packaging (factor loading = -0.668), identification of under performing areas in order to cut costs (factor loading = 0.652), the continuous exercise of tight cost controls and attention to detail (factor loading = 0.603);, on product design techniques that facilitate automation (factor loading = 0.464), the investment in advertising as a tool to approach customers (factor loading = 0.440);, the development of brand name and strategy (factor loading = 0.433), the continuous developments on new products (factor loading = -0.378), and the investment in sales promotions as a tool to approach customers and increase profits (factor loading = -0.368). Examining the factor loadings there is an indication that clearly this cluster employs a combination strategy in which they pay a great attention not only on cost control, but as well quality, product range, and marketing differentiation. The strategic synthesis of this cluster is not supported by Porter (1980).

Cluster 2 (n=3) is as well quite small in the sample and characterises about the two per cent of the UK MSMEs and the majority of firms are medium-sized (66,7 per cent) and small enterprises (33,3 per cent). Firms within this cluster are mainly manufacturers of fabricated plastic (34 per cent), auto and truck parts (33 per cent) and miscellaneous fabricated products (33 per cent). All firms have been operating for over 20 years. Cluster 2 is very far from factor 5 (-2.60); factor 7 (-1.87) and factor 3 (-1,82) and quite

similar to factor 9 (1,44) and factor 4 (1,24). Thus cluster 2 can be described as firms employing a combination strategy with a strong emphasis on elements of a cost leadership strategy. Companies within this cluster emphasise their strategic direction in offering a broad range of products (factor loading = -0.900), the development of a continuous improvement process in employees' skills (factor loading = 0.706), the achievement of an increased precision through the production lines by reducing defects (factor loading = 0.654), focusing on product design techniques that economise on costs of materials (factor loading = -0.607), focusing on product design techniques that facilitates automation (factor loading = 0.371), the continuous developments on new products (factor loading = -0.332), and the continuous exercise of tight cost controls and attention to detail (factor loading = -0.307). The strategic synthesis of this cluster is not supported by Porter (1980).

Cluster 3 (n=9) characterises the five per cent of the UK MSMEs and there are firms of medium-sized enterprises (66,7 per cent), small (22,2 per cent), and micro firms (11,1 per cent). Firms within this cluster are mainly manufacturers of miscellaneous fabricated products (46 per cent), textiles (12 per cent), auto and truck parts (11 per cent), other manufacturing not elsewhere classified (10.8 per cent), chemicals (10.5 per cent), and miscellaneous capital goods (9.7 per cent). Firms in this cluster have been established for over 20 years. Cluster 3 is quite similar to factor 8 (1,22) and very far from factor 6 (-1,20) and factor 10 (-1,05). Thus, firms within cluster 3 appear to employ a combination strategy with emphasis on cost leadership. Companies within this cluster emphasise their strategic direction in inventory management to improve cost control (factor loading = 0.875), the continuous improvement of supplier logistics in terms of delivery/lead time (factor loading = 0.465), and the investment in sales promotions as a tool to approach customers and increase profits (factor loading = -

0.368). Examining the factor loading indicates that clearly this cluster employs a combination strategy with strong emphasis on cost control. Their differentiation strategy depends only on sales promotions. Correspondingly to the previous clusters, the strategic synthesis of this cluster is not supported by Porter (1980).

Cluster 4 (n=32) consists of 18 per cent in the sample and the majority of enterprises are characterised as medium-sized enterprises (64.5 per cent), small (19.5 per cent), and micro (16.1 per cent). Firms within this cluster are mainly manufacturers of miscellaneous capital goods (35.5 per cent), other manufacturing not elsewhere classified (19.4 per cent), and miscellaneous fabricated products (19.4 per cent). The majority of firms have been operating for over 20 years (90.3 per cent), and only a small number have commenced operations the last 10 years (6.5 per cent) and less than five years (3.2 per cent). Cluster 4 is quite far from factor 7 (-1,40) and not particularly similar to any other factors. Thus, cluster 4 can be considered as a group of companies that do not have a clear strategic direction.

Cluster 5 (n=31) characterises the 18 per cent of the UK MSMEs in the sample and is one of the largest ones. The majority of firms are medium-sized (67,7 per cent), small (25,8 per cent), and micro (6.5 per cent). Firms within this cluster are mainly manufacturers of fabricated plastic (23 per cent), auto and truck parts (21 per cent) and other manufacturing not elsewhere classified (20 per cent). The majority of firms have been operating for over 20 years (93.5 per cent) and only a small number have been established for at least 10 years (6.5 per cent). Cluster 5 is very far from factor 8 (-0.15) and quite similar to factor 9 (1,22). Thus, cluster 5 consists of firms employing a pure cost leadership strategy. Companies within this cluster emphasise their strategic direction in the development of a continuous improvement process in employees' skills

(factor loading = 0.706), focusing on product design techniques that economise on costs of materials (factor loading = -0.607), focusing on product design techniques that facilitates automation (factor loading = 0.371), the continuous developments on new products (factor loading = -0.340), and the continuous exercise of tight cost controls and attention to detail (factor loading = -0.307). The strategic synthesis of this cluster fits the requirements of a cost leadership strategy as was initially defined by Porter (1980).

Cluster 6 (n=36) characterises the 18 per cent of the UK MSMEs in the sample and the majority of firms are medium-sized (74,2 per cent), small enterprises (12.9 per cent), and micro firms (12.9 per cent). Firms within this cluster are mainly manufacturers of miscellaneous capital goods (25.8 per cent), fabricated plastic (16.1 per cent), auto and truck parts (12.9 per cent) and miscellaneous fabricated products (12.9 per cent). The majority of firms have been operating for over 20 years (93.5 per cent). The remaining firms have been established for the last 10 years (3.2 per cent) and five years (3.2 per cent). Cluster 6 is quite similar to factor 4 (0.66) and very far from factor 9 (-0.54), factor 1 (-0.53), and factor 10 (-0.52). Hence, firms within cluster 6 employ a combination strategy with emphasis on cost leadership strategy. Companies within this cluster emphasise their strategic direction in offering a broad range of products (factor loading = -0.900), the achievement of an increased precision through the production lines by reducing defects (factor loading = 0.654), the development of a continuous improvement process in employees' skills (factor loading = 0.363), and the continuous developments on new products (factor loading = -0.332). The strategic synthesis of this cluster is not supported by Porter (1980).

Cluster 7 (n=13) characterises the seven per cent of the UK MSMEs in the sample and the majority of firms are medium-sized (69.2 per cent), and small enterprises (30.8 per

cent). Firms within this cluster are mainly manufacturers of other manufacturing not elsewhere classified (46.2 per cent), electronics (30.8 per cent), and miscellaneous capital goods (23.1 per cent). All firms in the cluster have been operating for over 20 years. Cluster 7 is quite similar to factor 10 (1,17) and factor 3 (0,73) and very far from factor 5 (-1,10). Thus, cluster 7 consists of firms employing a pure combination strategy. Companies within this cluster emphasise their strategic direction in the provision of sufficient facilities to support the quality of services (factor loading = -0.943), the possession of a process to utilise automation technologies (factor loading = 0.805), the reduction of labour input through mechanisation and automation (factor loading = 0.771), the development of brand strategy and name (factor loading = -0.458), focusing on product design techniques that economise on costs of materials (factor loading = -0.431), focusing on product design techniques that facilitates automation (factor loading = 0.414), the continuous development of new products (factor loading = -0.314), and making conscious efforts to differentiate services and products from their competitors (factor loading = -0.308); The strategic synthesis of this cluster is not supported by Porter (1980).

Cluster 8 (n=24) characterises the 14 per cent of the UK MSMEs in the sample and the majority of firms are medium-sized (50 per cent), small enterprises (29.2 per cent), and micro firms (20.8 per cent). Firms within this cluster are mainly manufacturers of miscellaneous capital goods (33.3 per cent), other manufacturing not elsewhere classified (25 per cent), miscellaneous fabricated products (20.8 per cent), and auto and truck parts (16.7 per cent). The majority of firms have been operating for over 20 years (87.5 per cent), for less than five years (8.3 per cent), and for almost 10 years (4.2 per cent). Cluster 8 is quite far from factor 3 (-0,82) and factor 4 (-0,68) and quite similar to factor 1 (1,09). Thus, firms within cluster 8 can be defined as companies employing

a pure combination strategy. Companies within this cluster emphasise their strategic direction in the continuous improvement of supplier logistics in terms of quality (factor loading = 0.732), cost control (factor loading = 0.439), delivery/lead time (factor loading = 0.579), focusing on improving product packaging (factor loading = -0.668), on product design techniques that facilitate automation (factor loading = 0.464), and the continuous developments on new products (factor loading = -0.378). Examining the factor loadings there is the indication that this cluster employs a combination strategy which is based on controlling cost and quality of products within supplier logistics and new product development. The strategic synthesis of this cluster is not supported by Porter (1980).

Cluster 9 (n=26) characterises the 15 per cent of the UK MSMEs in the sample and the majority of firms are medium-sized (69.2 per cent), small enterprises (23.1 per cent), and micro firms (7.7 per cent). Firms within this cluster are mainly manufacturers of other manufacturing not elsewhere classified (36 per cent), miscellaneous capital goods (32 per cent), miscellaneous fabricated products (16 per cent), and auto and truck parts (12 per cent). The majority of firms have been operating for over 20 years (92.3 per cent), and for almost 10 years (7.7 per cent). Cluster 9 (n=26) is quite similar to factor 6 (0,58) and very far from factor 8 (-0,75) and factor 10 (-0,73). Thus, cluster 9 consists of firms employing a combination strategy with emphasis on differentiation strategy. Companies within this cluster emphasise their strategic direction in performing incremental improvement in coordination and organisational structure (factor loading = 0.811), the provision of services that meet competitive quality standards (factor loading = -0.750), the continuous exercise of tight cost controls and attention to detail (factor loading = 0.371), and making conscious efforts to differentiate services and products to

their competitors (factor loading = -0.312). The strategic synthesis of this cluster is not supported by Porter (1980).

Cluster 10 (n=4) characterises the two per cent of the UK MSMEs in the sample and the majority of firms are medium-sized (50 per cent), small enterprises (25 per cent), and micro firms (25 per cent). Firms within this cluster are mainly manufacturers of other manufacturing not elsewhere classified (50 per cent), miscellaneous capital goods (27 per cent), and miscellaneous fabricated products (23 per cent). All of the firms in the sample have been operating for over 20 years. Cluster 10 is quite similar to factor 10 (1,25) and very far from factor 5 (-2,11), factor 3 (-1,74), and factor 8 (-1,26). Thus firms within cluster 10 appear to employ a pure combination strategy. Companies within this cluster emphasise their strategic direction in the provision of sufficient facilities to support the quality of services and products (factor loading = 0.943), and focusing on product design techniques that economise on costs of materials (factor loading = -0.431). The strategic synthesis of this cluster is not supported by Porter (1980).

Likewise the results presented previously in projects 4431 and 4434, the analysis of the questionnaire survey produced a variety of clusters with different emphasis on elements of competitive strategy. The data analysis failed to produce a cluster that could be characterised as pure differentiators as Porter (1980) initially stated. On the other hand, the cluster analysis produced cluster 5 which is characterised as a pure cost leader, and consists one of the largest clusters in the sample (18 per cent). Similarly to cluster analysis of project 4431 and 4434, the questionnaire survey produced cluster 4 (which is one of the largest clusters as well in the sample (18 per cent) that could be characterised as a group of firms that do not have a clear strategic direction (following the description

given by Spanos et al. (2004). The remaining clusters are characterised by a strategic synthesis which fits to the description a combination strategy (as it is supported by various studies such as: Kim & Lim, 1988; Yamin et al., 1999; Wright et al., 1991; Lau, 2002) rather than a pure strategy as was stated by Porter (1980).

4.5.4 Questionnaire Survey: Performance Analysis & Competitive Strategy Fit

As was discussed in Section 4.3.4, the null hypothesis has been set with the purpose of testing the strategic direction of UK MSMEs in relation to their performance. Similarly to the analysis of strategy-performance of projects 4431 and 4434, this thesis recognises the difficulty in measuring firm performance. To tackle this issue, this study employed two of the most commonly used variables in a number of studies (for instance, White, 1986; Miller & Dess, 1993; Marques et al., 2000; Spanos & Lioukas, 2001; Lau, 2002; Lumpkin & Dess, 2006): turnover and pre-tax profit/losses change over a period of three years. Based on the discussion that took place in section 4.2.3 each cluster produced by the K-means method is compared to a number of performance variables (in this study, firms' turnover and pre-tax profit/losses). Hence, each cluster's performance is evaluated in relation to their strategic choice and direction. *Table 4.10* shows means, standard variations and coefficient of variation for each cluster.

Cluster 1 employs a pure combination strategy with emphasis on differentiation and has the highest performance in terms of turnover (COV=1,20), and average pre-tax profits (COV=1,39) compared to other clusters.

Cluster 2 employs a combination strategy with emphasis on cost leadership and has the lowest performance in terms of turnover (COV=0,21), and pre-tax profits (COV=0,08) compared to other clusters.

Table 4.10: Means, Standard Variations & Coefficient of Variation – Questionnaire Survey

Cluster Number of Cases	Cluster's Strategic Direction	Turnover, latest, in thousand pounds			Pre-tax profits/losses, latest, in thousand pounds		
		Mean	SD	COV	Mean	SD	COV
1	CS	139330,50	166909,020	1,20	18662,00	26010,216	1,39
2	CS (<LC)	31295,33	6555,863	0,21	2499,67	188,322	0,08
3	CS (<LC)	64931,33	36488,894	0,56	2690,33	8299,028	3,08
4	NCS	55504,13	43454,974	0,78	-658,75	6610,213	-10,03
5	CLS	60967,52	67172,796	1,10	4063,35	8060,377	1,98
6	CS (<LC)	44712,89	26421,601	0,59	3909,03	6566,820	1,68
7	CS	74192,15	61112,181	0,82	2693,85	3142,386	1,17
8	CS	45562,92	48181,957	1,06	1604,83	9181,300	5,72
9	CS (<DS)	46210,96	36998,830	0,80	1764,81	4848,416	2,75
10	CS	81204,50	79488,846	0,98	6100,75	4318,939	0,71

Key:	
DS	Differentiation Strategy
NCS	No Clear Strategic Direction
CS (<DS)	Combination Strategy (emphasis on Differentiation Strategy)
CS	Combination Strategy
CS (<LC)	Combination Strategy (emphasis on Cost Leadership Strategy)

Firms within cluster 3 employ a combination strategy with emphasis on cost leadership and have low performance in terms of turnover (COV=0,56). Yet, they have above average performance in relation to pre-tax profits (COV=3,08) compared to other clusters.

Cluster 4 consists of firms that do not possess a clear strategic direction. Their performance in terms of turnover (COV=0,78) and pre-tax profits (COV=-10,03) are considered the lowest compared to every other cluster.

Cluster 5 consists of firms that employ a cost leadership strategy and have above average turnover (COV=1,10) and pre-tax profit (COV=1,98) compared to other clusters.

Cluster 6 consists of firms that employ a combination strategy with emphasis in cost leadership. Their performance in terms of turnover (COV=0,59) is considered to be the lowest compared to other clusters. Yet, pre-tax profits (COV=1,68) are considered to be above the average.

Cluster 7 employs a pure combination strategy, and has one of the lowest performances in relation to turnover generated (COV=0,82). In addition, it has an average pre-tax profit (COV=1,17) compared to other clusters.

Cluster 8 employs the same strategy as cluster 7 but they have above average performance in terms of turnover (COV==1,06). In addition, firms within this cluster have the highest performance in relation to pre-tax profits (COV=5,72) and compared to other clusters.

Cluster 9 consists of firms employing a combination strategy with emphasis on differentiation strategy. Firms within this cluster possess one of the lowest performances in relation to turnover (COV=0,80) and have one of the highest performances in terms of pre-tax profits (COV=2,75).

Finally, firms within cluster 10 employ a pure combination strategy. Their performance in terms of turnover is considered above the average (COV=0,98) but they have below the average performance in relation to pre-tax profits (COV=0,71).

The findings of the data analysis in this project support the null hypothesis. The findings produced one cluster (cluster 5) which is consistent with the description given by Porter (1980) of cost leadership but is not the strongest one within the sample. There

are however, forms of combination strategies that have performed better than others. Although, these results differ from Porter's definition of competitive strategies and some published studies (i.e. Green et al., 1993; Marques et al., 2000; Silva et al., 2000; Lumpkin & Dess, 2006), they are consistent with those of Phillips et al. (1983), Yamin et al. (1999), Spanos et al. (2004), and Allen et al. (2007). Another important finding was that of the various forms of combination strategies, and the fact that not all combinations can lead to higher firm performance. This finding has important implications for UK MSMEs when developing successful competitive strategies and especially when they choose the characteristics of their strategic synthesis. In addition, the findings of the current study do not support Porter's description of a pure differentiation strategy and agree with a number of previous empirical studies (i.e. Green et al., 1993; Marques et al., 2000; Silva et al., 2000; Lumpkin & Dess, 2006).

To conclude, the present results are significant in at least major two respects: Porter's cost leadership startegy appears to produce an average performance in terms of both turnover and pre-tax profits. Second, and being consistent with a number of previous studies (i.e. Spanos et al. 2004; Allen et al., 2007), a possible implication for UK MSMEs is that not all of the forms of combined strategy can lead to higher performance.

4.6 Conclusion

The above studies have provided a number of useful conclusions and directions in relation to the competitive strategies employed by UK MSMEs. Based on the aims of this study (refer to Chapter One) the first stage of the analysis was to investigate Porter's generic strategy framework and its applicability by the UK's MSMEs. The first objective of this thesis was to examine the types of business-level strategies that

UK MSMEs employ with the purpose of gaining competitive advantage. As was addressed in Chapter Three, there is limited research carried out in relation to competitive strategies of MSMEs. In addition, Porter (1980) described his generic strategies as alternatives and mutually exclusive. This study aims to investigate in what form generic strategies can be employed (combined or single types), and thus identify the preferred syntheses of successful strategic frameworks.

These findings suggest in general that the results from the three different datasets identified only a limited use of Porter's (1980) generic strategy types. Examining the data of the three different datasets there is little evidence of Porter's generic strategies. For instance, results from Projects 4431 and 4434 identified only elements of a pure differentiation strategy (and not cost leadership strategy) whereas, the survey carried out for the purposes of this thesis produced characteristics of a pure cost leadership strategy (and not of a differentiation strategy). Companies employing a differentiation strategy have the lowest performance in terms of turnover generated compared to the other clusters produced. The paradox here is that those companies have shown the highest performance in relation to pre-tax profits compared to the other clusters within each dataset. It appears that differentiators have not grown in terms of turnover but they have better managed internally their revenues with the purpose of having higher net profits. It would be quite interesting with further research to examine how differentiators achieve higher net profits despite the low levels of revenue generated.

Compared to projects 4431 and 4434 that have used only a limited number of competitive strategy variables (11 variables for 4431 and 15 variables for 4434), the survey questionnaire which employed 24 strategy variables produced different results. As was mentioned previously, only one cluster was characterised a pure cost leadership

strategy and no differentiators were identified. Possibly, the more competitive strategy variables are available to respondents the better range of options is provided and thus it is not limited to few alternatives. In addition, the survey identified clusters that employ a combination strategy with strong emphasis on cost leadership. It would be quite interesting to examine the companies which participated in projects 4431 and 4434 with the survey questionnaire and investigate whether the option to evaluate an additional number of competitive strategy variables would provide different responses. Examining the cost leadership cluster in terms of performance it is evident that firms perform quite well in terms of turnover generated and average in terms of pre-tax profits.

In summary, UK MSMEs appear to employ forms of combination strategy rather than single generic strategies as was initially stated by Porter (1980). The limited number of clusters identified in all studies in relation to generic strategies is very low. In the case of differentiators their performance is questionable as there is no clear evidence of how they are the lowest performers in terms of turnover generated but at the same time have the highest pre-tax profits. Moreover, the survey questionnaire identified only one cost leadership cluster that has above the average performance and hence can be considered as a successful strategic choice. Firms within this cluster are not the most successful. So far, the discussion has focused on the applicability of Porter's (1980) generic strategies by UK MSMEs. The following paragraphs will demonstrate the forms of successful competitive strategies as identified by the analysis of the three different datasets. In project 4431, the most successful strategy in terms of turnover generated was identified by a cluster that consisted of *firms with no clear strategic direction* (something that Porter would classify as "stuck in the middle"). Above average performance was produced as well by clusters that were identified as firms employing a combination strategy (cluster 4) and combination strategy with strong emphasis on cost

leadership (cluster 6). There are however clusters (such as three and five) that utilise elements of a combination strategy but have produced below average performance.

Similarly, project 4434 produced one cluster with the highest performance (cluster 2) and consists of firms that employ a combination strategy with strong emphasis on differentiation strategy. Correspondingly there is cluster 4 where firms utilise a combination strategy with a strong emphasis as well on differentiation strategy and have produced above the average performance. The worse performance compared to every other cluster is indicated by cluster 5 that can be considered as firms with no clear strategic direction.

Finally, the questionnaire survey carried out as part of this thesis produced the following results: (i) there are five clusters employing a pure combination strategy (clusters 1, 6, 7, 8, and 10). Clusters 1 and 7 have one of the highest performances in terms of turnover and pre-tax profits compare to other clusters. However, not every cluster following a pure combination strategy is successful. Clusters 6, 7, and 10 are considered to have average performance; (ii) clusters that employ a combination strategy with emphasis on cost leadership (clusters 2 and 3) have below average performance in relation to other clusters; (iii) firms within cluster 9 employ a combination strategy with emphasis on differentiation and although they possess the lowest performance in terms of turnover, they appear to have above average in relation to pre-tax profits; and (iv) cluster analysis produced as well a group of companies that do not have a clear strategic direction. Their performance both in terms of turnover and pre-tax profits is the lowest in relation to every other cluster.

The evidence from the above studies suggests that there are different views on Porter's generic strategies and there is no strong evidence for their applicability by UK MSMEs. The results of this research support the idea that combined competitive strategies could possible result in higher firm performance as long as they have employed an appropriate and effective strategic synthesis. The findings from this study make several contributions to the current literature. First, the current findings add substantially to our understanding of competitive strategies and identified forms of combination strategies that are more successful than others. Second, although there is support of Porter's applicability by UK MSMEs, there is no clear evidence that his strategic typology relates to a positive relationship between UK MSMEs and firm performance. Third, the present study confirms previous findings in relation to combined competitive strategies (i.e. Phillips et al., 1983; Yamin et al., 1999; Spanos & Lioukas, 2001; Allen et al., 2007) and contributes additional evidence that suggests the employability of additional strategic variables when investigating competitive strategies.

The next chapter discusses the data collected during a number of semi-structured interviews. By employing a qualitative research method, this thesis tests the proposed theoretical framework presented in Chapter Two with the purpose of identifying successful forms of combination strategies as they are formulated within the value chain.

Chapter 5

DATA ANALYSIS: INTERVIEWS

5.1 Introduction

During the discussion which took place in Chapter Two, a number of gaps within the literature were identified, and as a result a new theoretical framework was proposed. For instance, the majority of studies examine Porter's typology by simply asking questions of whether firms employ a generic strategy and/or a limited number of variables from each one (for instance, they ask whether firms employ a differentiation strategy by utilising marketing, services, product development, and similar). Although Porter (1985) stated that the value chain framework can be considered as a tool for formulating, diagnosing and implementing cost leadership or differentiation, those studies (refer Chapter Two) followed a different approach to investigating competitive strategy typologies.

In Chapter Three a discussion took place in relation to the chosen research methodology with the purpose of bridging the gaps within the competitive strategy literature demonstrated in Chapter Two. Firstly, to examine the applicability of Porter's (1980) typology based on a similar research methodology and design to a number of studies (for instance, Dess & Davis, 1984; Kim & Lim, 1988; Wright et al., 1990; Miller, 1992; Marques et al., 2000; Silva et al., 2000; Jacome et al.,2002) three different datasets were investigated. The results of data analysis in Chapter Four indicate that Porter's generic strategy framework is not fully applicable to UK MSMEs. There are a number of

clusters indicating that firms adopt successfully either a differentiation strategy or a mixed strategy approach in relation to firm performance (strategy-performance fit). The analysis of all datasets (the two projects from UK Data Archive, and survey questionnaire) in Chapter Four supports the null hypothesis (refer to Chapter Three) where UK MSMEs formulating and employing a combination of competitive strategies that are associated with better performance.

Secondly, a qualitative approach was adopted to bridge the gap within the literature and identify forms of successful competitive strategies for UK MSMEs as they are formulated and implemented in firms' value chain activities. Based on the research methodology explained in Chapter Three, the phenomenological approach allows researchers to build a theory through an inductive process. By employing a qualitative research method, this thesis tests the proposed theoretical framework presented in Chapter Two with the purpose of identifying successful forms of combination strategies as they are formulated within the value chain. The qualitative method chosen to examine competitive strategies is that of semi-structured interviews which allow the investigation of 'why', 'how', and 'what' but also assists in understanding the relationships between variables. The following paragraphs will discuss the various elements of the theoretical framework in relation to the respondents' views and strategic synthesis.

5.2 Operational Facets of the Sample

As was discussed in Chapter three, the interview sample was drawn from those participating in the questionnaire survey. The sample consisted of one micro firm (ID:2500), five small companies (ID:1500, 3500, 5500, 6000, 6500) and nine medium-sized enterprises (ID:1000, 2000, 3000, 4000, 4500, 5000, 7000, 7500, 8000). The

micro firm operates in a growing market with few major competitors and its operations are focused on producing textile based products. The degree of competition was established as low and hence there was no immediate threat.

The small firms manufacture chemicals, clothing & footwear, pet food, textiles, and commercial heating applications. Their industries are characterised as growing, mature, and declining. The degree of competition has been identified as very high with many competitors. The majority of medium sized firms are manufacturers of 'other manufacturing not elsewhere classified', chemicals, pc hardware, plastic products, and chemicals.

5.3 Theoretical Framework & Importance of External Environment & KSFs when Formulating Competitive Strategies

Based on the discussion that took place in Chapter Two, the external environment plays an important role in shaping and employing successful competitive strategies. Parnell (2006) states that these rapid changes in the global environment have raised questions about "simplistic and static strategy models" such as Porter's both in terms of empirical testing and application. This thesis contributes to knowledge by introducing the importance of the relationship between the formulation of competitive strategy and the dynamism of the external environment.

Globalisation factors affect respondents' competitive strategy and all of them indicated that changes in global environment influence the way they contact business and shape strategy. New technologies, the use of internet and the increased competition has caused a number of issues for the respondents (with the exception of ID:1000 which stated that its product fits to specific governmental regulations and firms outside the UK

do not possess the know-how to make it). For instance, the managing director of ID:7000 maintains that the worldwide environment changes rapidly and *"has created threats and opportunities"*. The use of technology has allowed them to *"find new suppliers around the globe and purchase raw materials at better prices or quality."*

Examining the dimensions of social environment (for instance, government, regulations, and similar) every interviewee when asked immediately indicated the importance of government and regulation. However, none of the respondents discussed the importance of ethics and social dimensions. Even when the researcher elaborated the discussion further, every respondent maintained that analysing and anticipating governmental actions and regulations are crucial for their success and competitive advantage. For instance, the managing director of ID:7500 states that their *"business is driven by changes in the environmental and safety legislation. Simply you cannot produce products that don't comply with governmental regulations."*

The 15 interviewees stated the significance of taking into consideration customers' requirements and ways of satisfying them. Every firm within the sample indicated that knowing and anticipating customers' needs is crucial for success in a continually changing competitive environment. ID:1000 stated their customers are valueable to them and in their company customers can "*call any time to seek advice or to solve any problems."*. Similarly, the managing director of ID:2500 discussed the importance of understanding what the market and customer requirements for remaining competitive in their marketplace because it gives them the opportunity *"to generate the next generation of products which will allow to remain competitive"*. ID:4000 supports the importance of analysing customer requirements in a changing environment and pinpoints that is crucial to remain flexible with the purpose of being able to offer what

the customer wants. The Managing Director states that to be successful they must *"constantly evaluate customers and markets and always be ready to adapt. Flexibility is crucial".*

Anticipating competitor actions plays an important role as well in remaining competitive. The importance of being flexible with the purpose of facing the increased competition is stated by the managing director of ID:3000 and he believes that another threat that will force them to change *"is the competition from Far East"* According to the responses, investigating competitors' actions is crucial as well for developing competitive strategies. For instance, the managing director of ID:7000 discussed the role of competitive intelligence within their organization with the purpose of monitoring "*competitors actions in relation to what they do and what they say but as well anticipate their actions".* ID:2000 adds the importance of gaining competitive advantage by producing products that their competitors are not in a position to do so. The managing director states their competitive strength *"is that we can produce products that our competitors cannot.".*

According to the discussion which took place in Chapter Two, KSFs can assist firms in formulating successful competitive strategies. Respondents reported numerous KSFs which are highlighted in *Table 5.1*. By examining the table, it is obvious that the majority of firms indicated that 'product quality', and 'product reliability' are key factors for their success. All of the respondents indicated that KSFs are crucial for their success and the development of competitive strategies.

The managing director of ID:4500 provides an overall view of the importance of the key success factors: *"With such competition the price and quality has to be the best, as well*

the delivery." A similar perspective is given by the managing director of ID:3000 which stated that price is not a success factor but systems that allow them to produce "*the next generation of products through new product development".*

Table 5.1: Respondents' KSFs

KSF Description	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
Product Quality	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Competitive & Reliable	x		x			x		x			x	x	x	x	x
Product Innovation (new features but bring costs down)		x	x		x								x		
Value (not price)			x			x		x					x	x	
Product reliability	x	x			x	x	x	x	x	x	x	x	x	x	x
On time full deliveries	x			x			x						x		x
Cost in use		x						x							
Justifiable value		x						x							
Price Sensitive				x		x				x	x	x		x	x
High Product Standards					x		x	x	x				x	x	x
Reputation	x					x	x	x	x			x	x	x	x
Good product design	x						x	x			x	x	x	x	x
Combatibility with legislation	x				x							x	x		
Highly specialised sales force					x										
Technical Excellence								x				x	x		
Good Customer Service						x				x			x		
Product Diversity												x			

When the respondents were asked whether the KSFs will change in the future, the majority stated that they will because of the continually changing customer needs, the increased competitive forces, the impact of globalisation in their business and changes in governmental legislation. For instance, the managing director of ID:2000 clarifies that the best way to ahead of the competition is by being *"competitive and reliable"* and *"through innovation".* Similarly, the managing director of ID:1500 explains further by indicating that customers needs and competitors' actions will create new challenges that

will define their strategy and they key success factors "*will depend on the product efficiency and performance"*.

To conclude, respondents consider the dynamism of the external environment (industry setting, competition, customers, and globalization factors) crucial when formulating competitive strategies. An interesting finding here is that all respondents stated the importance of being flexible and adaptable to a changing environment, and that government regulations play a crucial role to their markets. Similarly, KSFs play an important role when formulating successful competitive strategies. In addition to the external environment (previous section), interviewees stated the importance in taking into consideration the changes in KSFs when formulating competitive strategies. This finding highlights the importance of the dynamism of the external environment for firms that wish to remain competitive.

5.4 Analysis of Firms' Competitive Strategy Direction

During the interviews, respondents indicated a number of activities within their value chain (primary and secondary). Those activities were defined in Chapter Two (refer to *Table 2.3* and *Table 2.4*) and verified during the semi-structured interviews. Moreover, the examination of the responses for each major activity within the value chain and its strategic direction will be discussed in comparison with the findings of various studies (refer to Chapter Two) as shown in *Table 2.3* and *Table 2.4*. For clarity, the following analysis will be based on a categorisation of the various activities of the value chain. Moreover, it highlights which one of those activities is applicable and to what degree by UK MSMEs. Each activity is identified as a component of a cost leadership or differentiation strategy, and thus an indication of the strategic direction of each firm is identified.

All interviewee responses have been included in the *Appendix 6* which consists of various tables showing the number of activities identified for individual value chains. Each one activity is used with the purpose of achieving a cost leadership and/or a differentiation strategy. For the purpose of clarity and analytical purposes the overall strategic direction of firms (based on the responses provided during the interviews) is summarised in *Table 5.2.*

From the following table it is evident that UK MSMEs employ different combinations of strategy throughout their value chain (a detailed view of the interviewee responses is given in *Appendix 6*). Overall, and by looking the responses, there is not a single firm that could be identified as a differentiator or cost leader as was stated by Porter (1980) and studies supporting his generic strategy typology (for instance, Dess & Davis, 1984; Bamberger, 1989); Green et al., 1993; Marques et al, 2000, Cater & Pucko, 2005). The strategic synthesis of UK MSMEs is characterised by a combination of activities that lead to a combination competitive strategy. By examining the responses, it is evident however, that UK MSMEs employ a single strategy (that is, differentiation or low cost) in specific sections of the value chain such as Marketing & Sales or Services. Yet, when analysing their responses in all sections and activities of the value chain there is the indication that overall their strategic direction consists of a combination of strategies. Those differences could be explained mainly because of the different industry characteristics within which UK MSMEs operate (Kim & Lim, 1988).

For instance, it shows that the company ID:1000 employs activities that consist of a pure combination strategy within its inbound logistics, outbound logistics and technology development. Similarly, within operations it employs a combined strategy with strong emphasis on activities that are characteristics of a cost leadership strategy,

whereas in marketing & sales, services, and procurement a combination strategy with strong emphasis on differentiation strategy. On the other hand, ID:1000 utilises activities that are elements of pure differentiation strategy within its human resource and cost leadership strategy within its infrastructure.

To categorise the data, the researcher uses *Table 5.3* and highlights in terms of the total number of responses the strategic synthesis of each sector of the value chain. This table will be analysed together with *Table 5.2* which shows each firm's overall strategic direction and *Appendix 6* which consists of various tables showing the responses of all interviewees in relation to a number of activities within their value chain activities. To help the analysis of the qualitative data, the researcher when analysing each sector will provide additional tables to pinpoint those activities employed at a greater degree by UK MSMEs.

Examining *Table 5.3*, it is evident that UK MSMEs employ a pure combination strategy only in Technology Development (47 per cent); a combination strategy with emphasis on differentiation in Outbound Logistics (60 per cent), Marketing and Sales (67 per cent), and Technology Development (47 per cent); a combination strategy with emphasis on cost leadership in Inbound Logistics (67 per cent), Operations (53 per cent), and Procurement (47 per cent); a pure differentiation strategy in Services (73 per cent) and Human Resources (67 per cent); and a pure cost leadership strategy in Infrastructure (73 per cent).

Table 5.2: Overall Strategic Direction of Firms within Value Chain

Value Chain Activities	Overall Strategic Direction of Firms & Performance Variables														
	1000	**1500**	**2000**	**2500**	**3000**	**3500**	**4000**	**4500**	**5000**	**5500**	**6000**	**6500**	**7000**	**7500**	**8000**
Inbound Logistics	CS	CL	CS(L)	CL	CS(L)	CS(L)	CL	CS(L)	CL	CS(L)	CS(L)	CS(L)	CS(L)	CS(L)	CS(L)
Operations	CS(L)	CS(L)	CS(D)	CS	CS	CS	CL	CS	CS(L)	CS(L)	DS	CS(L)	CS(L)	CS(L)	CS(L)
Outbound Logistics	CS	CS(D)	CS	CS	CS(D)	CS(L)	CS(D)	CS(D)	CS(D)	CS(D)	CS(D)	CS(D)	CS(D)	CS	DS
Marketing & Sales	CS(D)	CS(D)	DS	CS(D)	CS(D)	DS	CS(D)	DS	DS	CS(D)	DS	CS(D)	CS(D)	CS(D)	CS(D)
Services	CS(D)	DS	DS	DS	DS	DS	DS	CS(D)	DS	DS	DS	CS(D)	CS(D)	DS	DS
HRM	DS	CS(D)	CS(D)	DS	DS	DS	DS	DS	DS	DS	CS(D)	DS	CS(D)	CS(D)	DS
Technology Development	CS	CS	CS	DS	CS(D)	CS	CS	CS	CS	CS(D)	CS(D)	CS(D)	CS(D)	CS(D)	CS(D)
Infrastructure	CL	CS	CL	CL	CS	CL	CL	CL	CL	CL	CL	CL	CS(L)	CL	CS(L)
Procurement	CS(D)	CL	CS(L)	CL	CL	CL	CS(L)	CS(L)	CS(L)	CS(L)	CL	CS	CL	CS(L)	CS(L)

Key to Table:

DS	Differentiation Strategy
CL	Cost Leadership Strategy
CS	Combination Strategy
CS(D)	Combination Strategy with strong emphasis on Differentiation
CS(L)	Combination Strategy with strong emphasis on Cost Leadership

Table 5.3: Total No of Responses & Percentage Analysis of UK MSMEs

Sectors of Value Chain	*Strategic Direction of UK MSMEs 'Number of Responses'*					
	CS	***CS (D)***	***CS(L)***	***DS***	***CL***	***Total Responses***
Inbound Logisitcs	**1**	0	**10**	0	**4**	**15**
Operations	**4**	**1**	**8**	**1**	**1**	**15**
Outbound Logistics	**4**	**9**	**1**	**1**	0	**15**
Marketing & Sales	0	**10**	0	**5**	0	**15**
Services	0	**4**	0	**11**	0	**15**
Human Resource Management	0	**5**	0	**10**	0	**15**
Technology Development	**7**	**7**	0	**1**	0	**15**
Infrastructure	**2**	0	**2**	0	**11**	**15**
Procurement	**1**	**1**	**7**	0	**6**	**15**

Sectors of Value Chain	*Strategic Direction of UK MSMEs 'Number of Responses'*					
	CS	***CS (D)***	***CS(L)***	***DS***	***CL***	***Total Responses***
Inbound Logisitcs	**7%**	0%	**67%**	0%	**27%**	**100%**
Operations	**27%**	**7%**	**53%**	**7%**	**7%**	**100%**
Outbound Logistics	**27%**	**60%**	**7%**	**7%**	0%	**100%**
Marketing & Sales	0%	**67%**	0%	**33%**	0%	**100%**
Services	0%	**27%**	0%	**73%**	0%	**100%**
Human Resource Management	0%	**33%**	0%	**67%**	0%	**100%**
Technology Development	**47%**	**47%**	0%	**7%**	0%	**100%**
Infrastructure	**13%**	0%	**13%**	0%	**73%**	**100%**
Procurement	**7%**	**7%**	**47%**	0%	**40%**	**100%**

According to *Table 5.3*, the majority of UK MSMEs (67 per cent) appear to employ a combination strategy with emphasis on cost leadership within **inbound logistics**, or a pure cost leadership strategy (27 per cent), or to a lesser degree (seven per cent) a pure combination strategy. *Table 5.4* highlights those activities discussed with the Managing

Directors of UK MSMEs. According to the managing director of ID:7000, inbound logistics play an important role in their competitive strategy because "*Maintaining a high quality raw material allows us to have fewer call backs from our customers and so we increase the product reliability".* According to him, managing suppliers is equally important to their customers: *"Although we are a customer driven organisation we consider our suppliers as crucial to our strategy".*

Table 5.4 highlights those activities that add value to them and contribute towards a successful competitive strategy, to a greater degree, consist of (i) various systems to control inbound logistics in terms of checks on weight/measures; to make sure that the order received from suppliers is correct; (ii) to control the order received in terms of quality; (iii) handling of incoming of raw materials with the purpose of minimising damage and improve quality; (iv) to utilise accordingly the space; and (v) control in terms of wastage of incoming goods. The managing director of ID:2000 gave a very clear explanation of how they utilise activities of inbound logistics by using advanced systems. For them, the relationship with their suppliers is important "*to build integrity"* and they have *"strict criteria for honesty, settling down accounts, and paying on time"* and especially when they negotiate "*with 3rd part suppliers to get better deal and profit margin".* Similarly, ID:7000 states the purpose of inbound logistics as part of the overall strategy is to *"effectively control credit, quality of raw materials, and improve the relationship with our suppliers".*

Table 5.4: Inbound Logistics - Activities & Strategic Directions Based on Interviewees Responses

Activity Description	Strategic Direction	Number of Responses	% of Responses (out of total = 15)
Various systems to control inbound logistics in terms of financial controls	CL	4	27%
Various systems to control inbound logistics in terms of wastage of incoming goods	CL	8	53%
Various systems to control inbound logistics in terms of checks on weight/measure (order is right or not)	CL	11	73%
Various systems to control inbound logistics in terms of quality	DS	11	73%
Various systems to control inbound logistics in terms of quantity received - utilise space	CL	9	60%
Paying suppliers on time - better discount negotiations	DS	2	13%
Negotiation for longer periods if suppliers provide a price reduction (reducing raw material cost)	CL	2	13%
Working with 3rd party suppliers to get better deal and have better profit margin	CL	6	40%
Superior handling of incoming raw materials to minimise damage and improve the quality of the final product	CL	10	67%
Located in close proximity with suppliers	CL	5	33%
Sample check of incoming raw materials based on specification given to suppliers	CL	1	7%

Key to table:

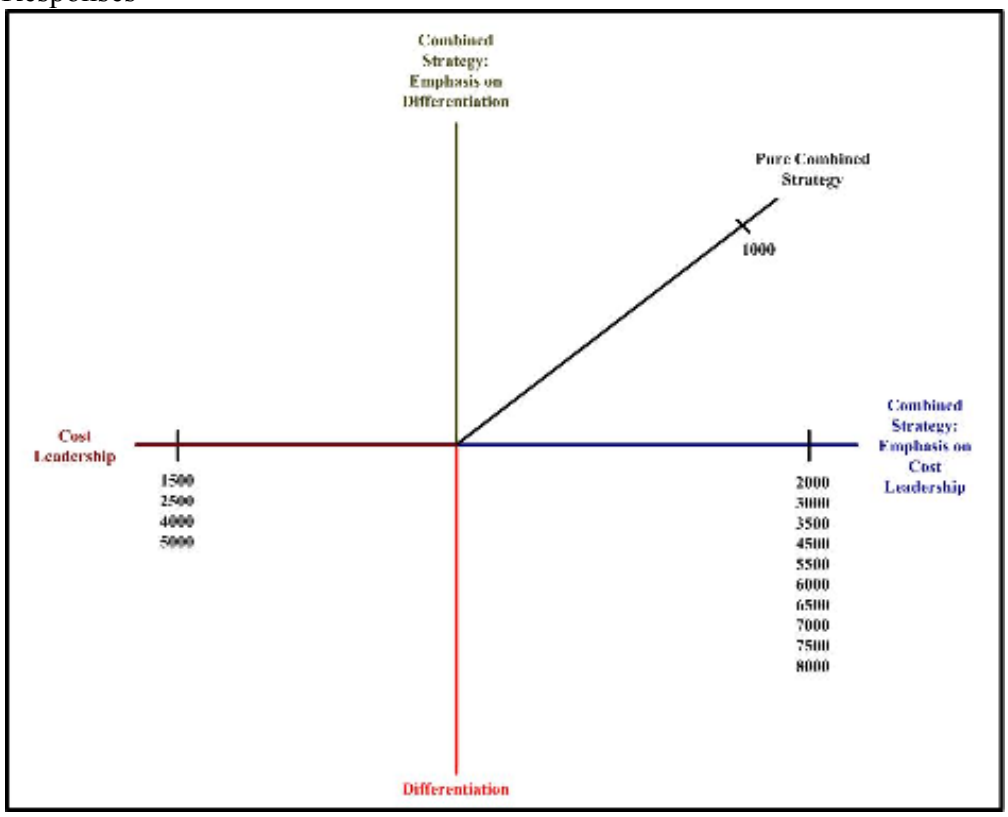
DS = Differentiation Strategy

CL = Cost Leadership Strategy

CS = Combination Strategy (both Cost Leadership & Differentiation)

The following *Figure 5.1* has five different dimensions to position firms' strategic direction based on their responses on activities related to pure differentiation strategy; pure cost leadership strategy; pure combination strategy; combination strategy with strong emphasis on differentiation; and combination strategy with strong emphasis on cost leadership (for more information regarding interviewee responses refer to *Appendix 6*). By examining the responses it is evident that: (i) four firms (1500, 2500, 4000, 5000) employ elements that can be classified as factors of a cost leadership strategy; (ii) ID:1000 employs elements that can be classified as factors of a pure combination strategy; and (iii) the remaining firms employ a combination strategy with a strong emphasis on activities that can be characterised as factors of a cost leadership strategy.

Figure 5.1: Inbound Logistics - Activities & Strategic Directions Based on Interviewee Responses



According to *Table 5.3*, the majority of UK MSMEs (53 per cent) appear to employ a combination strategy with emphasis on cost leadership within **Operations**, or a combination strategy (27 per cent), or at a lesser degree a combination strategy with emphasis on differentiation, pure differentiation, and cost leadership (seven per cent each strategic synthesis). *Table 5.5* highlights those activities discussed with the Managing Directors of UK MSMEs. The 80 per cent stated that 'rapid responses to produce products that meet customers' unique manufacturing specification' and 47 per cent the importance to have equipment that can produce products that competitors cannot. The managing director of ID:2000 gives a clear statement and states that investing in the latest manufacturing technology is crucial for gaining competiive advantage because in that way are able *"to adopt to the needs of the market and respond to quick changes"*. At the same time, they focus on automating their processes

with the purpose of reducing costs and utilise their equipment so that they can *"develop a product design that* [their] *competitors' equipment cannot"*.

Table 5.5: Operations - Activities & Strategic Directions Based on Interviewees Responses

Activity Description	Strategic Direction	Number of Responses	% of Responses (out of total = 15)
Rapid responses to customers' unique manufacturing specifications	DS	12	80%
New equipment to automate processes and reduce costs	CL	6	40%
Bespoke capital equipment to produce product design that competitors cannot	DS	7	47%
Efficient plant scale to minimise manufacturing costs	CL	6	40%
Incremental improvements in coordination & organisation (for quality & costs)	CL	4	27%
Specialisation of labour	CL	9	60%
High tech manufacturing - computered controlled (reduced labour input through mechanisation and automation)	CL	9	60%
Outsourcing parts of manufacturing for bespoke solutions and quality of product	DS	3	20%

Key to table:

DS = Differentiation Strategy

CL = Cost Leadership Strategy

CS = Combination Strategy (both Cost Leadership & Differentiation)

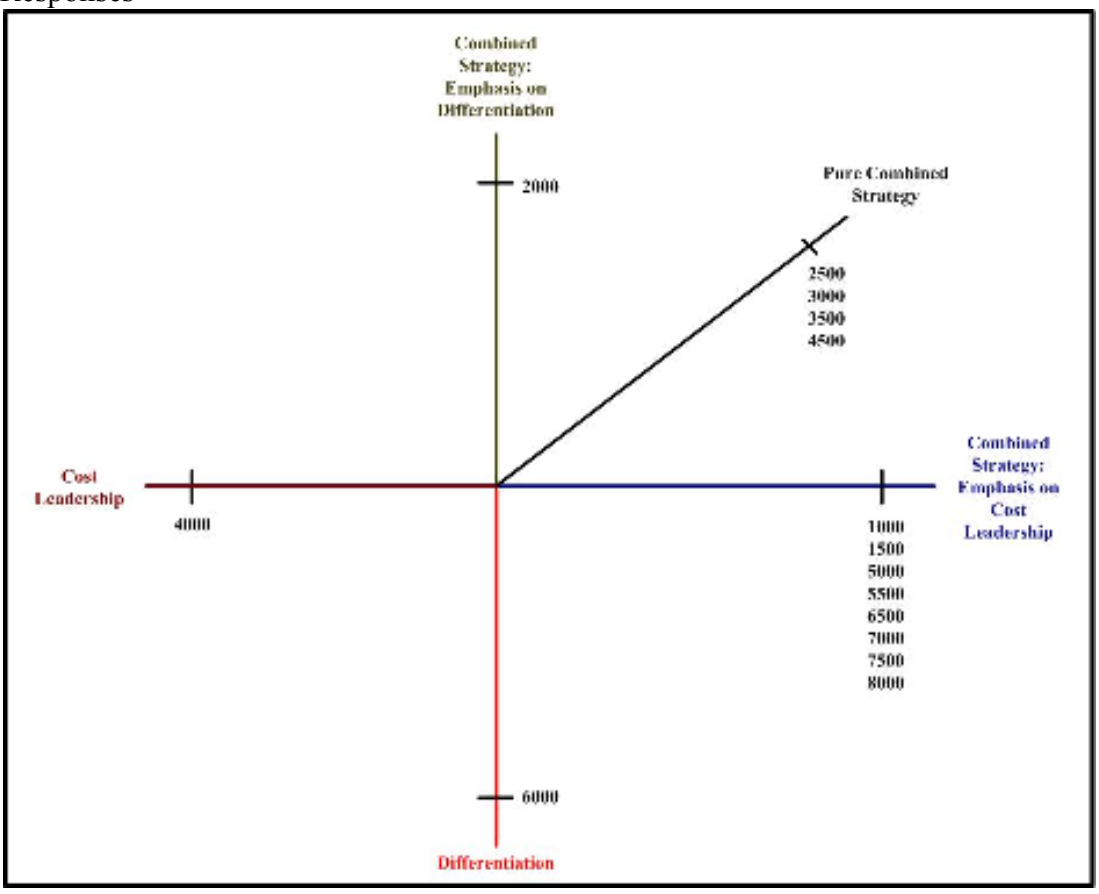
Similarly, ID:4000 pinpoints the importance in having superior technology that allows them to manufacture to customer specification that their competitors cannot and they achieve that by giving *"a great emphasis in high-tech engineering equipment and processes"*. Similar statements were provided by the managing director of ID:3000 which states their manufacturing equipment gives them the competitive edge to produce products that competitors cannot. Flexibility is important when manufacturing to customer specifications and their capital equipment has brought new processes in place that give them the *"flexibility to manufacture products to customers' specifications and at the same time to grow the business further"*. The managing director of ID:3000 states as well that for low volume products they outsource them and in a similar way

and at the same time they *"keep customers happy and we minimise the cost of production by utilising our capital equipment to higher volume products"*.

Specialisation of labour (60 per cent of respondents) and high tech manufacturing with the purpose of reducing labour input through mechanisation and automation (60 per cent of interviewees) is crucial for their operations. According to ID:4000, specialised technology allows them to manufacture products for their customers "*that meet their specification*" but at the same time gives them the opportunity to utilise effectively their labour input in their production process. The managing director of ID:1500 emphasises the importance of cutting costs down by "*establishing which site is the best site to optimise efficiency and therefore take costs down"* and at the same time maintaining quality standards as they "*run ISO9000 to make sure that the quality of the products manufactured is high"*.

The following *Figure 5.2* illustrates the interviewees' responses in relation to those activities defined as elements of a cost leadership and/or differentiation strategy (for more information refer to *Appendix 6*). By examining the responses it is evident that: (i) ID:4000 employs elements that can be classified as factors of a pure cost leadership strategy; (ii) ID:6000 employs elements that can be classified as factors of a pure differentiation strategy; (iii) four firms (2500, 3000, 3500, 4500) employ elements that can be classified as factors of a pure combination strategy; and (iv) the remaining firms employ a combination strategy with a strong emphasis on activities that can be characterised as factors of a cost leadership or differentiation strategy.

Figure 5.2: Operations - Activities & Strategic Directions Based on Interviewee Responses



According to *Table 5.3*, the majority of UK MSMEs (60 per cent) appear to employ a combination strategy with emphasis on differentiation within **outbound logistics**, or a combination strategy (27 per cent), or at a lesser degree a combination strategy with emphasis on cost leadership (seven per cent), and a pure differentiation strategy (seven per cent). *Table 5.6* highlights those activities discussed with the Managing Directors of UK MSMEs. According to the table, 87 per cent of the UK MSMEs state that is crucial for their competitive advantage to 'deliver the product to customers on time'. The managing director of ID:1000 supports this arguments by stating that *"On time delivery is crucial to our business"* and they achieve it by cooperating closely with their *"customers so to help them with their installation needs"*. The managing director of ID:4500 agrees and according to his statement their customers expect from them "*to*

deliver a reliable product on time". To accomplish such good quality they *"inspect products based on the specification agreed".*

Table 5.6: Outbound Logistics - Activities & Strategic Directions Based on Interviewee Responses

Activity Description	Strategic Direction	Number of Responses	% of Responses (out of total = 15)
Control of deliveries prior to going to customers so to reduce returned items	CL	5	33%
Efficient order sizes	CL	9	60%
Accurate and responsive order processing procedures	DS	11	73%
Rapid & timely product deliveries to customers	DS	13	87%
When order is placed then automatically assigns the transport company to deliver goods	DS	7	47%
Close relationship with transport companies	CL	4	27%
Delivery planned with the purpose of delivering on time and control costs	CS	4	27%

Key to table:

DS = Differentiation Strategy

CL = Cost Leadership Strategy

CS = Combination Strategy (both Cost Leadership & Differentiation)

To do so, firms need to have 'accurate and responsive order processing procedures' (73 per cent of the respondents). A precise statement is given by the managing director of ID:1000 that employ ERP [Enterprise Resource Planning] that handles their outbound logistics and gives them an automated system with the purpose of having "*a precise delivery schedule that will allow us to deliver on time to our customers".*

It appears that for UK MSMEs it is important to have customers that place efficient order sizes (60 per cent of the interviewees) by having a "*minimum quantity on orders which is different for each product*" with the purpose of keeping the costs under control (ID:1000).

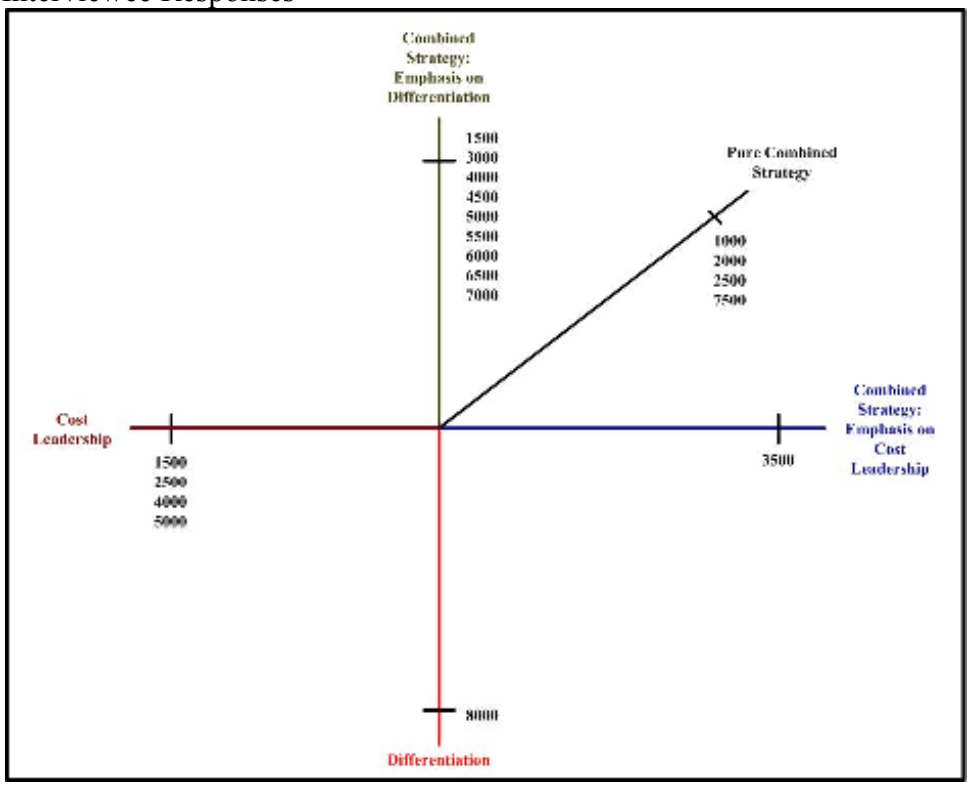
Additionally, 33 per cent of the UK MSMEs consider it is important to control their deliveries prior to going to customers with the purpose of reducing the returned items and 27 per cent state that deliveries should be planned with the purpose of delivering on time and controlling costs. ID:1000 states that "*keeping a strict delivery schedule helps with cost control and operational efficiency"*. The managing director of ID:4500 agrees with the previous statement but he adds that their *"customers expect to deliver a reliable product on time"*. The managing director ID:2000 introduces the importance of measuring the performance of the items delivered to customers by measuring *"the performance of the material delivered to customers"*. For ID:2000 "p*roduct quality has to be high so to reduce returned items"*.

During the interviews the managing directors of UK MSMEs emphasised the importance of having close relationships with various transportation companies mainly because the majority of them did not have their own fleet. The managing director of ID:4500 states that having agreed a delivery date with their customers they *"assign a reliable transportation company to deliver on time and without having damaged the product"*. The cost here is not an issue and ID:4500 states that they *"prefer to have a more expensive transportation company rather than a cheaper one"*. The managing director of ID:3000 agrees with the previous statement and according to them the *"transportation of our finished goods is been handled by 3rd parties as we don't have our own fleet"*. The managing director clearly states that the main reason is that they need *"reliable companies that will deliver on time and in general have not any difficulty in delivering our product"*. ID:1000 to facilitate automation, speed, and accurate delivery schedule that will deliver on time have employed an automated system within their ERP operations. The managing director stated that this system allows them not

only to have correct orders input in the system but also to "d*eliver the goods to the customer on time"*.

Figure 5.3 illustrates the interviewees' responses in relation to those activities defined as elements of a cost leadership and/or differentiation strategy (for more information refer to *Appendix 6*). By examining the responses it is evident that: (i) ID:8000 employs elements that can be classified as factors of a pure differentiation strategy; (ii) ID:3500 employs a combination strategy with a strong emphasis on activities that can be characterised as factors of a cost leadership strategy; (iii) six firms (1500, 3000, 4000, 5000, 6000, 6500) employ a combination strategy with a strong emphasis on activities that can be characterised as factors of a differentiation strategy; and (iv) the remaining firms employ elements that can be classified as factors of a pure combination strategy.

Figure 5.3: Outbound Logistics - Activities & Strategic Directions Based on Interviewee Responses



According to *Table 5.3*, the majority of UK MSMEs (67 per cent) appear to employ a combination strategy with emphasis on differentiation within **Marketing and Sales**, or a pure differentiation strategy (33 per cent). It appears that UK MSMEs when it comes to Marketing and Sales employ elements of a differentiation strategy rather than of a cost leadership or a combination strategy. *Table 5.7* highlights those activities discussed with the Managing Directors of UK MSMEs.

Table 5.7: Marketing & Sales - Activities & Strategic Directions Based on Interviewees Responses

Activity Description	Strategic Direction	Number of Responses	% of Responses (out of total = 15)
Extensive personal relationship with buyers	DS	11	73%
Competitive price but high quality	DS	6	40%
Quality sales literature (provide better information)	DS	13	87%
Build brand awareness & reputation: Launch of marketing campaigns	DS	7	47%
Competitor Analysis (products, markets, prices)	DS	11	73%
National Scale advertising (create scale economies in buying media space/time)	DS	10	67%
Market research	DS	9	60%
Strong coordination among functions	CL	8	53%
Build brand awareness & reputation: Trade exhibitions	DS	10	67%
Products priced to generate sales volume	CL	2	13%
Build brand awareness & reputation: Large number of samples to customers so to evaluate their products	DS	5	33%
Small highly trained sales force	CL	7	47%
cost control on promotional activities	CL	5	33%
Build brand awareness & reputation: use of website	DS	12	80%
Use of agents for distribution channel with the purpose of reaching customers	DS	5	33%
Charge premium pricing	DS	2	13%
Build brand awareness & reputation: Direct Marketing	DS	6	40%
Strong relationship with customers to produce growth in their market	DS	4	27%
Highly specialised sales force (for each customer segment)	DS	3	20%

Key to table:

DS = Differentiation Strategy

CL = Cost Leadership Strategy

CS = Combination Strategy (both Cost Leadership & Differentiation)

87 per cent of the respondents stated that there is the need to provide information to customers through quality sales literature. The managing director of ID:3000 explains that information about their business is sent to their customers through CD/DVDs: *We have as well a CD/DVD that we send to our customer and tell them about our business and how we do things.* The managing director of ID:4000 has developed a similar DVD with the purpose not only of advertising their products but to exhibit "*the functionality and characteristics of our products based on customer requirements".* Additionally, ID:7000 besides sending a hardcopy of their brochure to customers, they have made it available on their website. As a specialised manufacturer of PC systems they have created a demo which shows their hardware and software products. In his statement clarified: *"In that way we pass the information to the customer by experiencing and using our product".*

80 per cent of the respondents employ a number of activities with the purpose of increasing their company's brand awareness. The managing director of ID 3000 states that a combination of marketing activities is required to acquire brand awareness such as *"national scale advertising, exhibitions, adverts in trade magazines, brochures and technical guides"* and at the same time utilise their technical personnel and sales to acquire customer feedback by "*carrying out surveys about the quality of our products".* Similarly ID: 4500 states that they carry out a variety of marketing activities (such as exhibitions, brochure, trade advertising, internet) but also focus on targeted *"direct marketing".*

A different view is given by the managing director of ID:7000; he states that advertising in various magazines does not help them to increase their business. Trade exhibitions appear to be the best option to them with the purpose of "*increasing the awareness of*

our company" and according to them *"success comes with targeted marketing campaigns to each market segment we are active".*

As recorded during the interviews there are numerous marketing activities that a company can carry out with the purpose of increasing awareness and sales. Despite those reported by the majority of interviews, five companies (4000, 5500, 6000, 6500, 7000) stated the importance of sending samples to their customers with the purpose of being evaluated. The managing director of ID:4000 claims that the best way to acquire feedback on their products is to *"allow customers to experiment with them. For that purpose we send samples to our major customer every year and ask them to tell us their views".*

In measuring the effectiveness of various campaigns it is important to see on the one hand the effectiveness and on the other hand control of costs. The managing director of ID:3000 clearly states the importance of measuring marketing activities because *"knowing the impact shows the effectiveness of the campaign but as well help us to reduce costs by not launching marketing activities which do not have any impact".*

A small and highly specialised sales team is crucial for UK MSMEs. The main reason is to exhibit product and market expertise to their customers. ID:3000 states: *"In terms of sales, we have a small but highly specialised team that is trained to acquire business and deal with technical enquiries".* Similarly, ID:4500 sees the importance of their sales team in relation to building a strong relationship with their customers: *"and in that way we support them".*

The marketing director of ID:7000 emphasises the importance of focused marketing activities on each market segment separately and because their customers' opinion is essential on an annual basis they launch *"voice of the customer workshops that allow them to discuss their needs* [their customers]*, our product performance, and opportunities for new product development"*.

The importance of pricing structure as part of their marketing activities is described by the managing director of ID:2000: *"To offer the best price we constantly monitor the markets, prices and competitors product range. Price has to be very competitive but the product still needs to have longevity and high quality"*.

The following *Figure 5.4* illustrates the interviewees' responses in relation to those activities defined as elements of a cost leadership and/or differentiation strategy (for more information refer to *Appendix 6*). By examining the responses it is evident that: (i) five firms (2000, 3500, 4500, 5000, 6000) employ elements that can be classified as factors of a pure differentiation strategy; and (ii) the remaining firms employ elements that can be classified as factors of a combination strategy with strong emphasis on differentiation.

According to *Table 5.3*, the majority of UK MSMEs (73 per cent) appear to employ a differentiation strategy within **Services**, or a combination strategy with emphasis on differentiation strategy (27 per cent). Similarly, to Marketing & Sales, UK MSMEs appear not to employ elements of a pure combination strategy and cost leadership. This finding supports Miller (1986) and Mintzberg (1988) in which they state that marketing and services can be used to form differentiation. *Table 5.8* highlights those activities discussed with the Managing Directors of UK MSMEs.

Figure 5.4: Marketing& Sales - Activities & Strategic Directions Based on Interviewee Responses

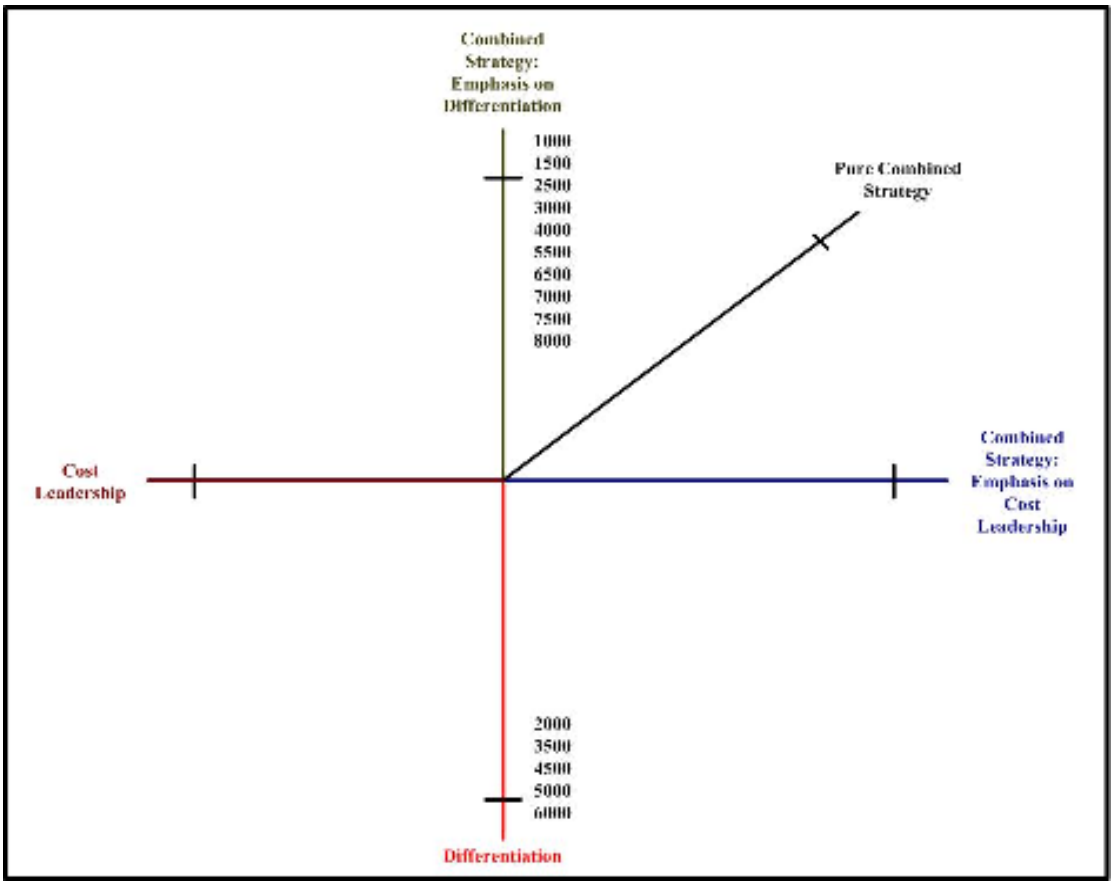


Table 5.8: Services - Activities & Strategic Directions Based on Interviewees Responses

Activity Description	Strategic Direction	Number of Responses	% of Responses (out of total = 15)
Customer liaison (effective & satisfactory)	DS	15	100%
High product and service liability	DS	14	93%
Customer credit	DS	5	33%
Dedicated phone line	DS	11	73%
annual meetings with major customers	DS	4	27%
Step by step instructions	DS	4	27%
Available spares for replacement	DS	5	33%
Effective product installations to reduce recalls	CL	4	27%
Traning for customers	CL	2	13%

Key to table:

DS = Differentiation Strategy

CL = Cost Leadership Strategy

CS = Combination Strategy (both Cost Leadership & Differentiation)

It is obvious from the above table that services are used with the purpose of achieving a competitive advantage. The main activity that differentiates UK MSMEs to their competitors is to offer effective and customer liaison. The managing director of ID:3000 clearly states that services are not only for customer complaints but also to make sure that a customer's order is processed effectively and efficiently by monitoring *"the progress of the their order from the moment is received until is delivered"*. Additionally, the managing director of ID:2500 sees as extremely important the personal relationship with customers and even if there is a problem he makes *"contact with them to find out what happened and solve the problem. In that way we are building confidence with the customer"*.

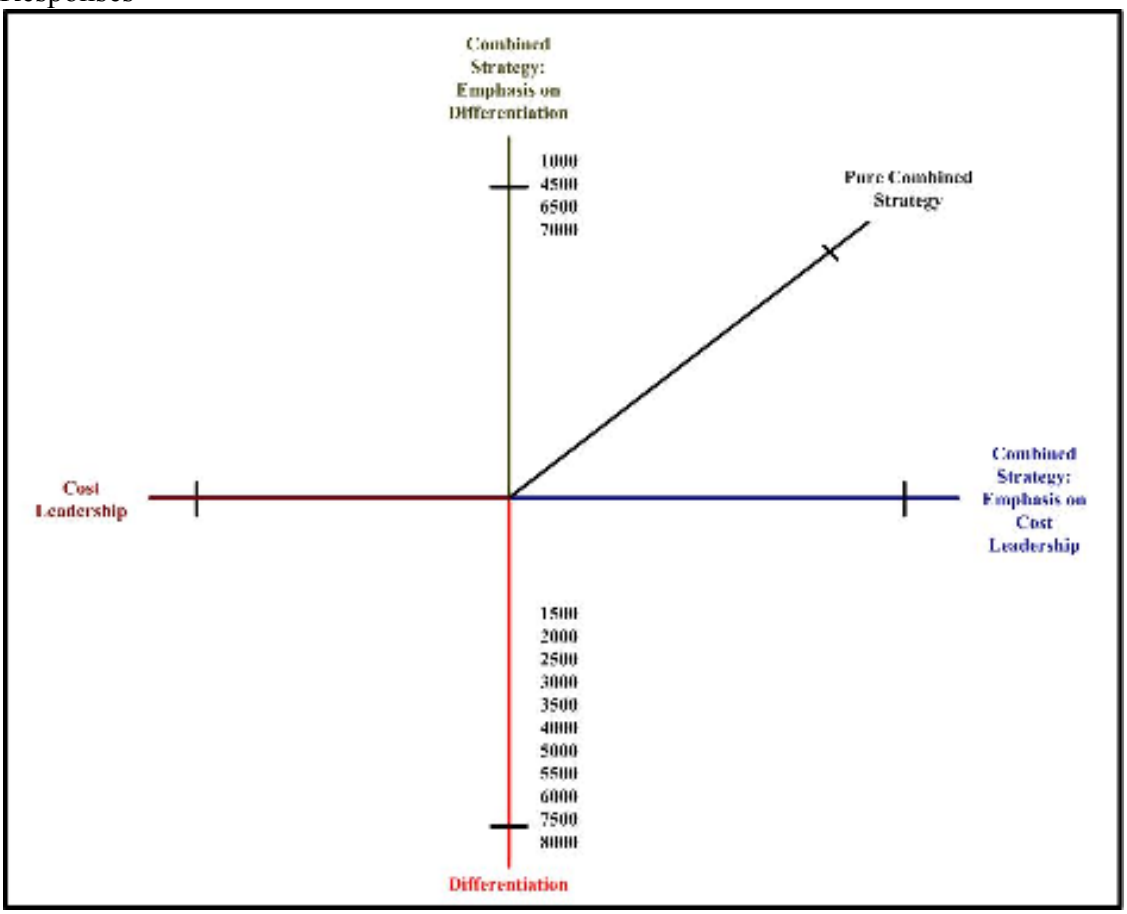
For most of the manufacturers (93 per cent) the product and service liability must be high. The managing director of ID:7000 clearly states even if there is a problem with the product, the services team "*is always ready to deal with customer issues… they are trained and ready to cope with any enquiries and problems"*. The managing director of ID:7500 sees an opportunity with the services department. He argues that the services department should not only solve problems but also guide the rest of the business to increase quality and performance by providing "*feedback of how could improve product quality and new product development"*.

Finally, the managing director of ID:4500 expands the previous statement and pinpoints that services needs to be "*integrated with the best price, delivery, quality and technical excellence"*.

The following *Figure 5.5* illustrates the interviewees' responses in relation to those activities defined as elements of a cost leadership and/or differentiation strategy (for

more information refer to *Appendix 6*). By examining the responses it is evident that: (i) four firms (1000, 4500, 6500, 7000) employ elements that can be classified as factors of a combination strategy with strong emphasis on differentiation; and (ii) the remaining firms employ elements that can be classified as factors of a pure differentiation strategy.

Figure 5.5: Services - Activities & Strategic Directions Based on Interviewee Responses



According to *Table 5.3*, the majority of UK MSMEs (67 per cent) appear to employ a differentiation strategy within **Human Resources**, or a combination strategy with emphasis on differentiation strategy (33 per cent). Similarly to Marketing & Sales, and Services, UK MSMEs appear not to employ elements of a pure combination strategy and cost leadership. *Table 5.9* highlights those activities discussed with the Managing Directors of UK MSMEs.

Table 5.9: Human Resource Management - Activities & Strategic Directions Based on Interviewees Responses

Activity Description	Strategic Direction	Number of Responses	% of Responses (out of total = 15)
Development & learning culture (independent and personnel training development)	DS	12	80%
Redutancies to cut costs	CL	5	33%
Training to improve performance	DS	13	87%
Apraisal & reward System	DS	6	40%
Succession planning for those retiring	DS	1	7%
Health care/pension scheme/recognition/bonus	DS	12	80%

Key to table:

DS = Differentiation Strategy

CL = Cost Leadership Strategy

CS = Combination Strategy (both Cost Leadership & Differentiation)

The majority of interviewees stated that although they do not have a dedicated human resource department, departmental managers and directors are responsible for the various activities. In support of this argument, the managing director of ID:4500 maintains that departmental managers are *"responsible for HR policies because they are in the best position to decide what is required or not"*. The managing director of ID:4000 sees the HR department as a team of people working together for a common purpose and thus do not have HR manager. That is why they have created a team called *"investors for people"* and their responsibility is to "*take decisions about welfare and other social aspects of the business"*.

Based on their responses, it is obvious that one of the main functions of HRM is the provision of "*comprehensive training programs"* and its purpose is to "*drive performance, increase morale and allow to be a world class business"*. An approach similar to the previous one is adopted by the managing director of ID:3000. He considers that the human resource policies are very important to overall business

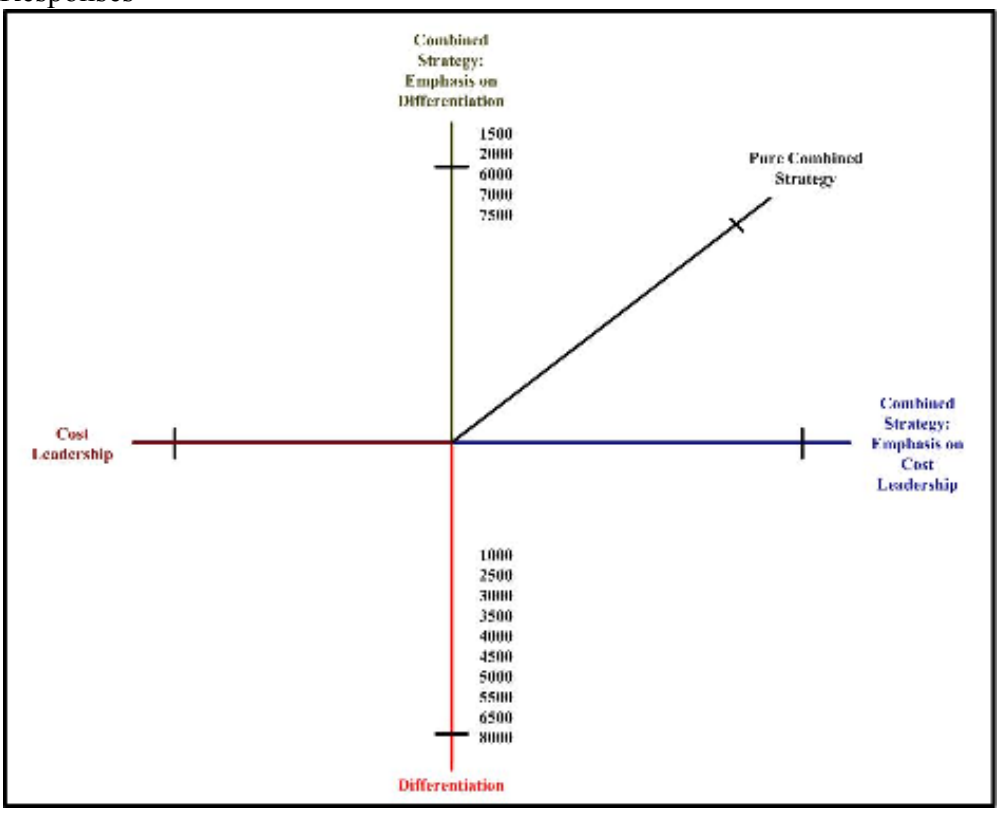
strategy and that is why they *"have introduced specialised training, we sent our people to acquire university degrees, we have an appraisal and bonus system for all levels, pension schemes and health care".*

Based on the responses a number of interviewees (80 per cent) view that learning and developing culture are crucial to their success. A very good analysis is provided by the managing director of ID:2000 that part of their learning culture is the existence of internal development programs but as well from external isntituions and as a result they *"allowed employees that used to work on the shop floor to acquire a degree and as a result a higher position within our organisation."*

Interviewing the managing director of ID:1500 identified another function of the human resource department that is focused on *"training and other legal issues relating to recruitment"* and at the same time to support their efforts to "*lower costs and the downsizing of the organisation".*

The following *Figure 5.6* illustrates the interviewees' responses in relation to those activities defined as elements of a cost leadership and/or differentiation strategy (for more information refer to *Appendix 6*). By examining the responses it is evident that: (i) four firms (1000, 4500, 6500, 7000) employ elements that can be classified as factors of a combination strategy with strong emphasis on differentiation; (ii) the remaining firms employ elements that can be classified as factors of a pure differentiation strategy.

Figure 5.6: Human Resources - Activities & Strategic Directions Based on Interviewee Responses



According to *Table 5.3*, the majority of UK MSMEs (47 per cent) appear to employ a combination strategy within **Technology Development**, or a combination strategy with emphasis on differentiation strategy (47 per cent) or at a lesser degree a pure differentiation strategy (seven per cent). Similarly to Marketing & Sales, Services, and HRM UK MSMEs appear not to employ elements of a pure cost leadership strategy. *Table 5.10* highlights those activities discussed with the Managing Directors of UK MSMEs.

The table overleaf highlights those activities that add value to UK MSMEs and contribute towards a successful competitive strategy. It is evident that 100 per cent of the managing directors consider it essential to employ easy to use manufacturing technologies. The managing director of ID:7500 states that the user-friendly technology

allows their operators "*to use it without mistakes and at the same time increase the productivity"*.

Table 5.10: Technology Development - Activities & Strategic Directions Based on Interviewees Responses

Activity Description	Strategic Direction	Number of Responses	% of Responses (out of total = 15)
Investments in Technology in order to Reduce Costs Associated with Manufacturing Processes	CL	7	47%
Coordination among R&D, marketing and product development	CL	14	93%
Easy-to-Use Manufacturing Technologies	DS	15	100%
The use of Internet for customer retention & acquisition	DS	10	67

Key to table:

DS = Differentiation Strategy

CL = Cost Leadership Strategy

CS = Combination Strategy (both Cost Leadership & Differentiation)

Correspondingly, 93 per cent of the respondents see the technology as a way to have an effective coordination among R&D, marketing and product development. Referring to the importance of utilising technology to coordinate various departments, the managing director of ID:7000 believes that online IT systems allow their "*sales team while they are with customers to create quotes by login on the internet quotation based module"*.

The managing director of ID:3000 provides an overall perspective of the use of technology and adds that the importance of technology is great because it allows them to reach customers and to communicate their "*products but as well interact with customers, and suppliers"*. At the same time technology can be used to *"trace information for our customer through our CRM"*.

The following *Figure 5.7* shows the interviewees' responses in relation to those activities defined as elements of a cost leadership and/or differentiation strategy (*Appendix 8* highlights all the feedback). By examining the responses it is evident that: (i) two firms (1000, 2500) employ elements that can be classified as factors of a pure differentiation strategy; (ii) three firms (3000, 5500, 8000) employ elements that can be classified as factors of a combination strategy with strong emphasis on differentiation; and (iii) the remaining firms employ elements that can be classified as factors of a pure combination strategy.

According to *Table 5.3*, the majority of UK MSMEs (73 per cent) appear to employ a pure cost leadership strategy within **Infrastructure**, or a combination strategy (13 per cent) or a combination strategy with emphasis on cost leadership (13 per cent). Contrary to Marketing & Sales, Services, and HRM, UK MSMEs appear not to employ elements of a pure differentiation strategy. *Table 5.11* highlights those activities discussed with the Managing Directors of UK MSMEs.

Figure 5.7: Technology Development - Activities & Strategic Directions Based on Interviewee Responses

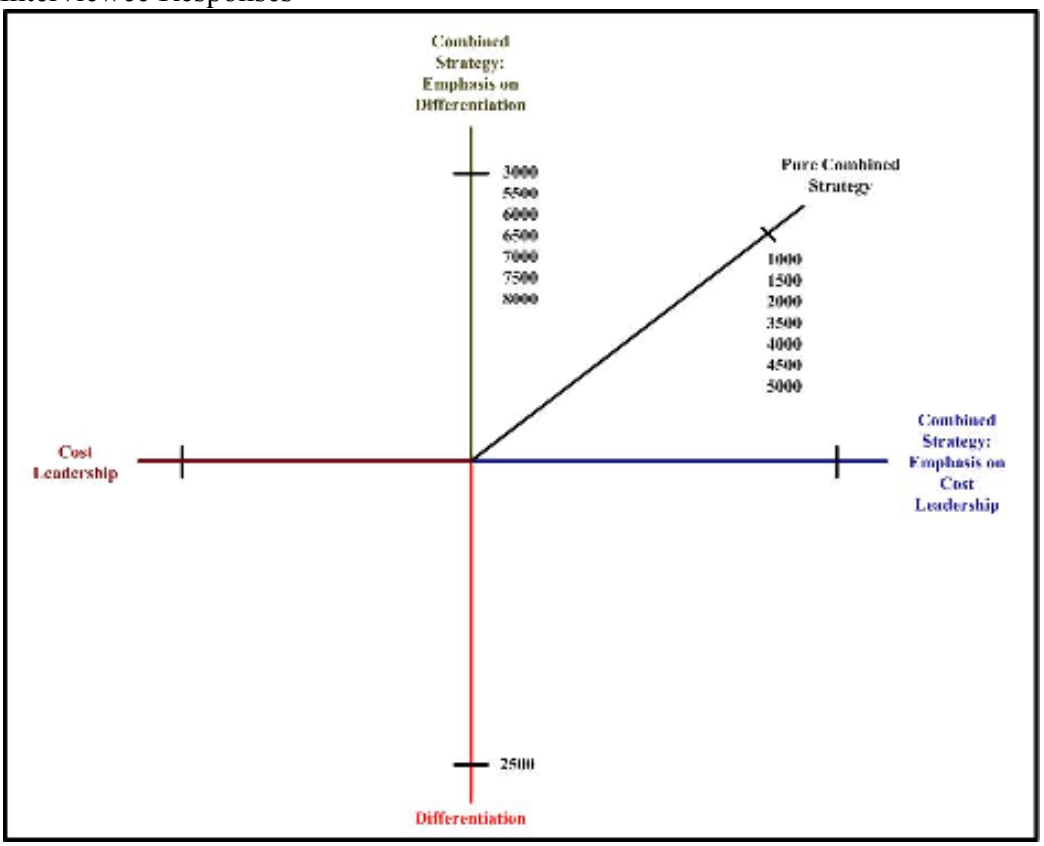


Table 5.11: Firm Infrastructure - Activities & Strategic Directions Based on Interviewees Responses

Activity Description	Strategic Direction	Number of Responses	% of Responses (out of total = 15)
Few management layers to reduce overhead	CL	13	87%
Highly developed IT	CL	8	53%
Simplified planning practices to reduce planning costs	CL	9	60%
CRM Systems	DS	4	27%
Quality procedures to reduce costs and offer good quality	**CS**	5	33%
Various processes to control the business operations	CL	7	47%

Key to table:

DS = Differentiation Strategy

CL = Cost Leadership Strategy

CS = Combination Strategy (both Cost Leadership & Differentiation)

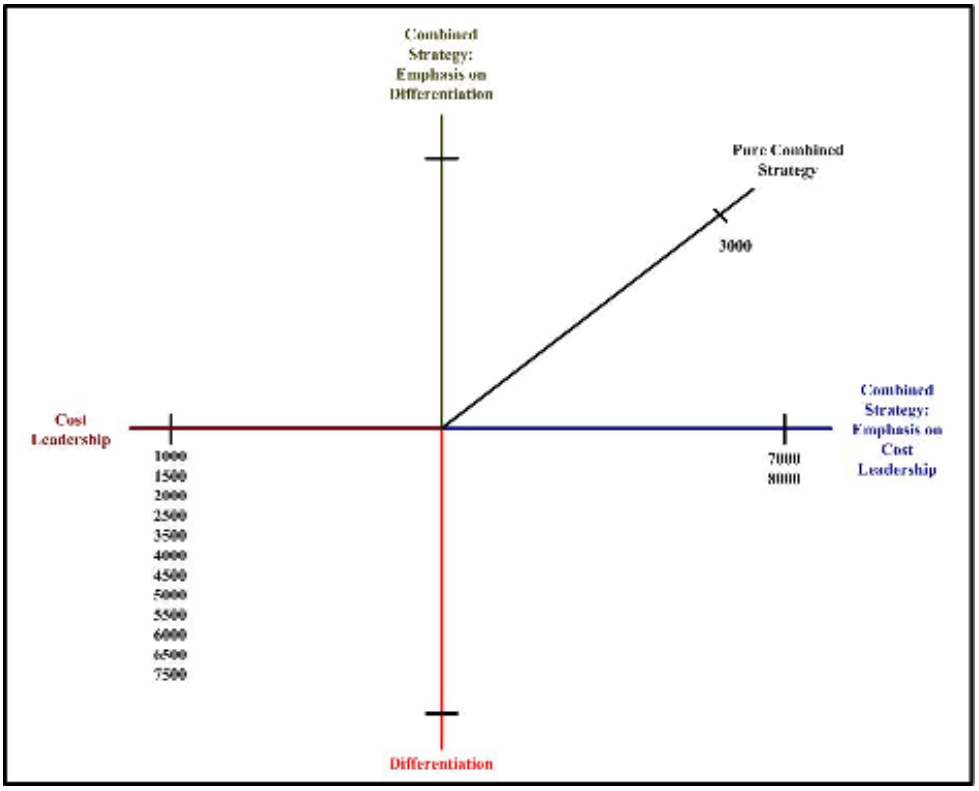
The above indicates the strategic direction of each activity, the number of respondents that stated their applicability and usability. Based on the responses it appears that the majority of activities are factors to achieve a cost leadership strategy (there were only one activity that relates to differentiation). In addition, five interviewees (2500, 3500, 4000, 7000, 8000) reported an activity that combines both elements of differentiation and cost leadership as they felt that within their firm infrastructure is crucial to their success to have quality procedures that reduce costs but at the same time offer good quality.

The majority of interviewees (87 per cent) stated the importance of having few management layers with the purpose of reducing overheads but as well to improve communication. For instance the managing director of ID:8000 maintains that they have a simple organisational structure because in that way they *"improve the communication between the senior management and the operators"* but also in that way they have managed to *"cut overheads* [previously they had supervisors and team leaders that were between the operators and senior management]*"*. Similar feedback was received by the managing director of ID:2000 where the responsibility is passed to "*junior people to do better work and more satisfying tasks"*.

60 per cent of UK MSMEs discussed the importance of simplifying planning practices by having fewer layers of management. The managing director of ID:2500 adds to the above comments and discusses the importance of simplifying planning practices by having "*only two management levels"* and in that way allows them to "control *costs at all times and avoid time consuming procedures"*.

The following *Figure 5.8* illustrates the interviewees' responses in relation to those activities defined as elements of a cost leadership and/or differentiation strategy (for more information refer to *Appendix 6*). By examining the responses it is evident that: (i) two firms (1500, 3000) employ elements that can be classified as factors of a pure combination strategy; (ii) five firms (2500, 3500, 4000, 7000, 8000) employ elements that can be classified as factors of a combination strategy with strong emphasis on cost leadership; and (iii) the remaining firms employ elements that can be classified as factors of a pure cost leadership strategy.

Figure 5.8: Firm Infrastructure - Activities & Strategic Directions Based on Interviewee Responses



According to *Table 5.3*, the majority of UK MSMEs (47 per cent) appear to employ a combination strategy with emphasis on cost leadership strategy within **Procurement**, or a pure cost leadership strategy (40 per cent) or to a lesser degree a combination strategy

(seven per cent) and a combination strategy with emphasis on differentiation (seven per cent). Contrary to Marketing & Sales, Services, and HRM, UK MSMEs appear not to employ elements of a pure differentiation strategy. *Table 5.12* highlights those activities discussed with the Managing Directors of UK MSMEs.

Table 5.12: Procurement - Activities & Strategic Directions Based on Interviewees Responses

Activity Description	Strategic Direction	Number of Responses	% of Responses (out of total = 15)
frequent evaluation of processes to monitor suppliers' performance	CL	9	60%
Systems & procedures to monitor and locate various suppliers	CL	8	53%
Systems & procedures to choose the best price available in the market	CL	7	47%
Dedicated suppliers to buy quality material	DS	9	60%
Located in close proximity with suppliers-keeps the costs down	CL	3	20%
focused on the lowest cost supplier	CL	2	13%
Overseas suppliers that produce in low cost (not china)	CL	1	7%
Best deal for the business	CL	13	87%
Purchase of highest quality replacement parts	DS	1	7%
Quality and availability rather than price (when choosing a supplier)	DS	3	20%

Key to table:

DS = Differentiation Strategy

CL = Cost Leadership Strategy

CS = Combination Strategy (both Cost Leadership & Differentiation)

As it appears from the table below, the majority of UK MSMEs (87 per cent) see the procurement department as a function to seek the 'best deal' for their business. The managing director of ID:7500 categorically states that their purchasing department plays an important strategic role by *"seeking the best deal in terms of price, quantity, and quality"*. Similarly, the managing director of ID:7000 argues that their purchasing

manager *"is in the process of rationalisating our suppliers but at the same time to identify from which ones we can source the best deal for price and quality"*.

Moreover, UK MSMEs regard it important to have relations with the suppliers (60 per cent) and a number of systems to evaluate their performance (60 per cent). The managing director of ID:3000 states that having few suppliers it allows them to *"manage them in terms of cost and quality"*. Their criteria in choosing suppliers to work with ranges from *"price, quality, reliability and always try to get the best deal for the business"*.

Similarly, the managing director of ID:4500 states that the main function of their strategic procurement department is sourcing and purchasing and for that reason they have a *"system in place to evaluate them in terms of quality and function/performance.* For them it is important to have good relations with their suppliers with the purpose of maintaining high quality as they *"cannot negotiate on price* [they produce specialised products and hence the raw material cannot be purchased by numerous suppliers. These specialised stockists therefore can set the prices for the raw materials]".

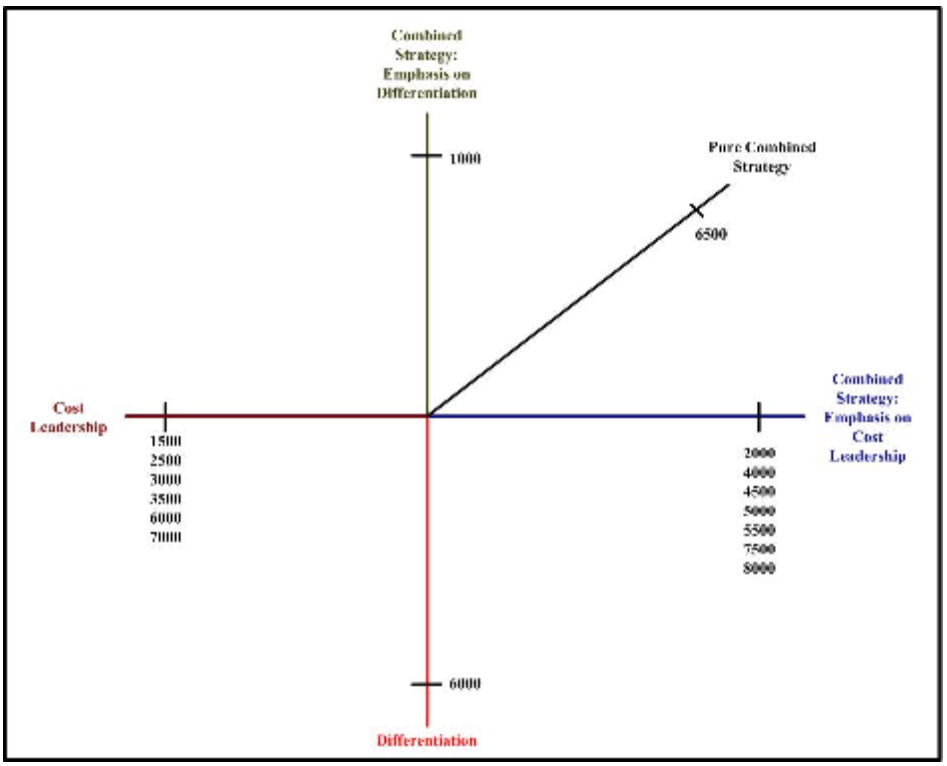
53 per cent of the interviewees utilise systems and procedures to monitor and locate various suppliers and 47 per cent systems to help them choose the best price available in the market. According to the managing director of ID:2000: *"We have quite a lot sophisticated systems to monitor and locate various suppliers and choose the best price available in the market"*.

A more detailed view of the criteria for choosing suppliers is given by the managing director of ID:4000 which he states that they have a list of preferred suppliers that *"buy*

quality products and not necessarily with the lowest price. To do so they have developed systems that monitor the whole supply chain based on *"specific parameters including: testing criteria, delivery on time, meeting the specifications, whether pricing is correct, invoicing is correct, and the quality of the material".*

The following *Figure 5.9* shows the interviewees' responses in relation to those activities defined as elements of a cost leadership and/or differentiation strategy (*Appendix 8* provides all the feedback). By examining the responses it is evident that: (i) one firm (1000) employs elements that can be classified as factors of a pure differentiation strategy; (ii) six firms (1500, 2500, 3000, 3500, 6000, 7000) employs elements that can be classified as factors of a pure cost leadership strategy; (iii) the remaining firms employ elements that can be classified as factors of a pure combination strategy.

Figure 5.9: Procurement - Activities & Strategic Directions Based on Interviewee Responses



To conclude, the data gathered during the interviews verify that UK MSMEs employ a form of combination strategy with the purpose of achieving competitive advantage. Every firm within the sample has provided evidence that overall UK MSMEs do not employ a single generic strategy as initially stated by Porter (1980). Based on the analysis carried out on the value chain activities (both primary and secondary) there are activities which according to the interviewee responses are employed with the purpose of achieving a pure or combined strategy (either cost leadership or differentiation).

Within the primary activities it is evident that the majority of the companies have a similar strategic direction. For instance, all 15 firms stated activities within inbound logistics that are elements of cost leadership strategy or combined strategy with strong emphasis on cost leadership. Similarly, within outbound logistics the majority of firms appear to employ characteristics of a differentiation strategy or combination strategy with strong emphasis on differentiation.

Correspondingly, there are activities within the secondary value chain which according to the interviewee responses are employed with the purpose of achieving a pure or combined strategy (either cost leadership or differentiation). For instance, all 15 firms stated activities within procurement that are elements of cost leadership strategy or combined strategy with strong emphasis on cost leadership. Similarly, within technology development the majority of firms appear to employ characteristics of a differentiation strategy or combination strategy with strong emphasis on differentiation.

Thus, according to the previous analysis the majority of firms utilise: (i) a combination strategy with strong emphasis on cost leadership within inbound logistics and operations; (ii) a combination strategy with strong emphasis on differentiation within

outbound logistics and marketing/sales; (iii) a pure differentiation strategy within services; (iv) a combination strategy with strong emphasis on cost leadership within procurement; (v) a combination strategy with strong emphasis on differentiation within technology development; (vi) a pure cost leadership strategy within infrastructure; and (vii) a pure differentiation strategy within human resource.

Thus, the data analysis indicates that UK MSMEs overall employ a form of combination strategy and not a single one. Similarly to the results produced during the quantitative analysis, it appears that forms of combination strategies are preferred by UK MSMEs. The next section will discuss possible forms of combination strategies that are more successful than others when compared to firm performance.

5.5 An Overall Examination of Firms' Competitive Strategy Direction & Firm Performance

The above examination of interviewee responses has provided an extended analysis of both primary and secondary activities within companies' value chain. Each activity was categorised based on the departmental function (that is, marketing & sales, operations, procurements and similar) and compared to other firms' responses. As was mentioned in the previous section, all interviewee responses have been included in the *Appendix 6* which consists of various tables showing the number of activities identified for individual value chains. Each one activity is used with the purpose of achieving a cost leadership and/or a differentiation strategy. This study has shown that firms prefer to combine activities from both strategies in each different segment of the value chain. The findings contribute to knowledge by providing a combined value chain rather than separate value chains for each generic strategy as was initially stated by Porter (1985).

For the purpose of clarity the overall strategic direction of firms (based on the responses provided during the interviews) are summarised in *Table 5.13*. For instance, it shows that the company ID:1000 employs activities that consist of a pure combination strategy within its inbound logistics, outbound logistics and technology development. Similarly, within operations it employs a combined strategy with strong emphasis on activities that are characteristics of a cost leadership strategy, whereas in marketing & sales, services, and procurement a combination strategy with strong emphasis on differentiation strategy. On the other hand, ID:1000 utilises activities that are elements of pure differentiation strategy within its human resource and cost leadership strategy within its infrastructure.

Overall, the results indicate that there is no similarity of activities between firms, and thus each one employs different activities for the purpose of formulating successful competitive strategies. To identify which one of the combination of activities provides a competitive advantage the researcher compared firms' strategic direction with their performance. However, with a small sample size, caution must be applied, as the findings might not be transferable to the general population of UK MSMEs. In addition, and as was mentioned in Chapter 3, the comparison between firm performance and competitive variables between studies and thus the data must be interpreted with caution. In the previous chapter, the researcher noted the possible implications and stated the importance to include more performance related variables. However, the researcher has compared the qualitative findings based on the guidelines given by Saunders et al. (2000).

Table 5.13: Firm Performance & Strategic Direction within Value Chain

Value Chain Activities	Overall Strategic Direction of Firms & Performance Variables														
	1000	**1500**	**2000**	**2500**	**3000**	**3500**	**4000**	**4500**	**5000**	**5500**	**6000**	**6500**	**7000**	**7500**	**8000**
Inbound Logistics	CS	CL	CS(L)	CL	CS(L)	CS(L)	CL	CS(L)	CL	CS(L)	CS(L)	CS(L)	CS(L)	CS(L)	CS(L)
Operations	CS(L)	CS(L)	CS(D)	CS	CS	CS	CL	CS	CS(L)	CS(L)	DS	CS(L)	CS(L)	CS(L)	CS(L)
Outbound Logistics	CS	CS(D)	CS	CS	CS(D)	CS(L)	CS(D)	CS(D)	CS(D)	CS(D)	CS(D)	CS(D)	CS(D)	CS	DS
Marketing & Sales	CS(D)	CS(D)	DS	CS(D)	CS(D)	DS	CS(D)	DS	DS	CS(D)	DS	CS(D)	CS(D)	CS(D)	CS(D)
Services	CS(D)	DS	DS	DS	DS	DS	DS	CS(D)	DS	DS	DS	CS(D)	CS(D)	DS	DS
HRM	DS	CS(D)	CS(D)	DS	DS	DS	DS	DS	DS	DS	CS(D)	DS	CS(D)	CS(D)	DS
Technology Development	CS	CS	CS	DS	CS(D)	CS	CS	CS	CS	CS(D)	CS(D)	CS(D)	CS(D)	CS(D)	CS(D)
Infrastructure	CL	CS	CL	CL	CS	CL	CL	CL	CL	CL	CL	CL	CS(L)	CL	CS(L)
Procurement	CS(D)	CL	CS(L)	CL	CL	CL	CS(L)	CS(L)	CS(L)	CS(L)	CL	CS	CL	CS(L)	CS(L)
MarketStatus	Mature	Mature	Mature	Growing	Growing	Declining	Mature	Declining	Declining	Growing	Declining	Mature	Mature	Mature	Mature
Market Share	50%+	50%+	11-25%	11-25%	11-25%	50%+	11-25%	11-25%	26-50%	11-25%	11-25%	less 5%	26-50%	11-25%	11-25%
Turnover % Change: Yr1 vs Yr2	72%	-20%	-3%	9%	58%	12%	12%	0.3%	16%	83%	3%	10%	19%	5%	7%
Turnover % Change: Yr2 vs Yr3	-8%	-17%	-9%	-15%	91%	11%	14%	3%	28%	-37%	2%	3%	3%	8%	5%

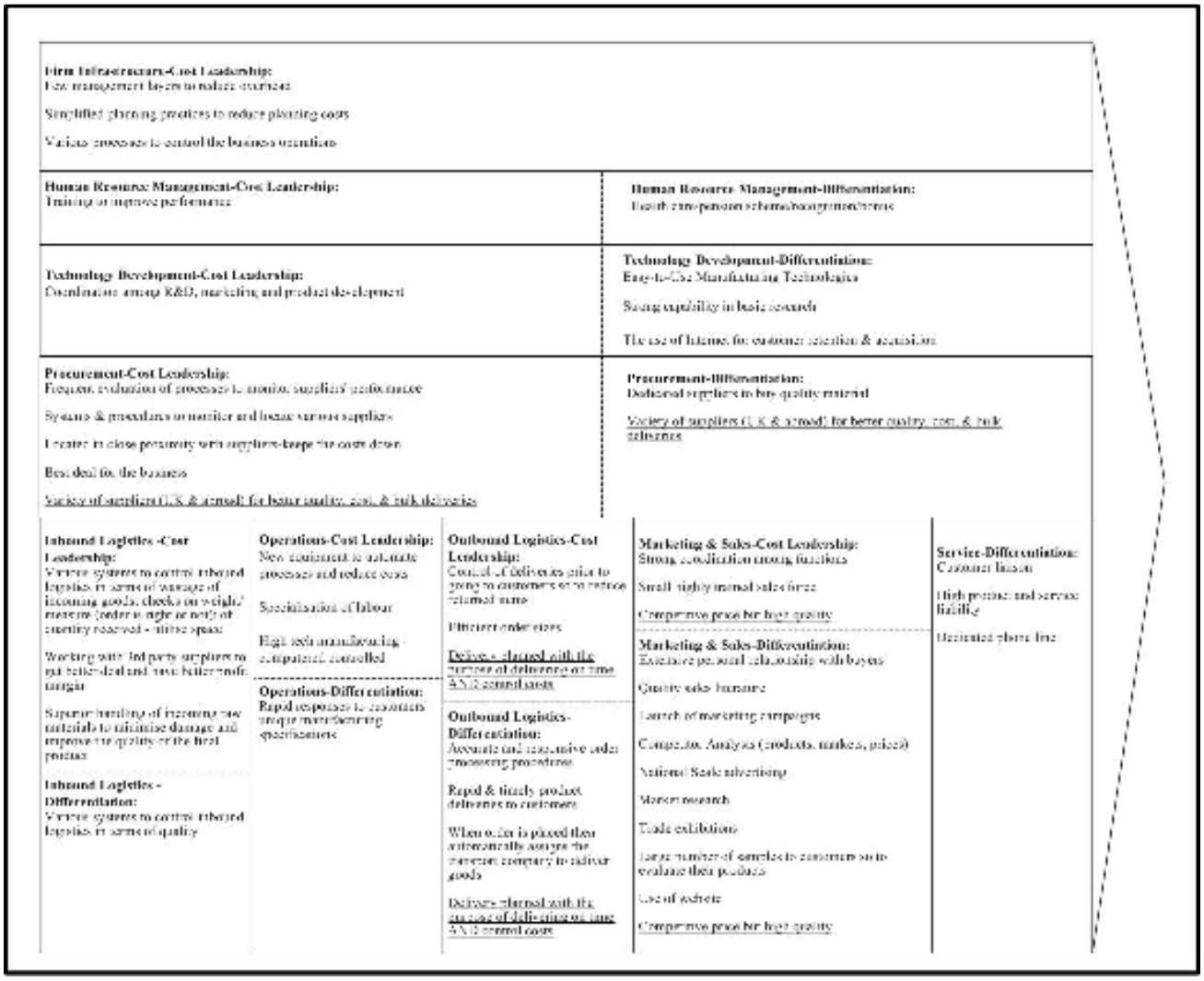
Key to Table:

DS	Differentiation Strategy
CL	Cost Leadership Strategy
CS	Combination Strategy
CS(D)	Combination Strategy with strong emphasis on Differentiation
CS(L)	Combination Strategy with strong emphasis on Cost Leadership
Yr1 vs Yr2	Year 1 = 2006 vs Year 2 = 2005
Yr2 vs Yr3	Year 1 = 2005 vs Year 2 = 2004

Examining the table in terms of turnover percentage (%) change between years 2006, 2005 and 2004, it appears that firms with ID:1000, 3000, and 5500 have shown the biggest increase and thus their strategic direction provides the required performance. On the contrary, the worse performance was achieved by firms with ID:1500, 2000 where their turnover figure decreased dramatically. The remaining firms have shown a growth in their turnover between years 2005 and 2006 but not as big as between years 2004 and 2005.

Comparing the three high performers ID:5500 appears to be the best case scenario for UK MSMEs that face problems with their financial performance and seek a strategy to gain competitive advantage and thus potentially improve their financial performance. Their turnover figures (refer to *Table 5.13*) between year 2 compared to year 3 reduced by -37 per cent, whereas between year 1 and year 2 they increased by 83 per cent (acquired as well market share of between 11-25 per cent). ID:5500 achieved this turnaround by utilising the following strategic synthesis within its value chain activities (for a detailed analysis of their specific activities refer to *Figure 5.10* which highlights the characteristics of both primary and secondary value chain): (1) Inbound Logistics: Combination Strategy with strong emphasis on Cost Leadership; (2) Operations: Combination Strategy with strong emphasis on Cost Leadership; (3) Outbound Logistics: Combination Strategy with strong emphasis on Differentiation; (4) Marketing & Sales: Combination Strategy with strong emphasis on Differentiation; (5) Services: Differentiation Strategy; (6) Human Resource (HRM): Differentiation Strategy; (7) Technology Development: Combination Strategy with strong emphasis on Differentiation; (8) Infrastructure: Cost Leadership Strategy; and (9) Procurement: Combination Strategy with strong emphasis on Cost Leadership.

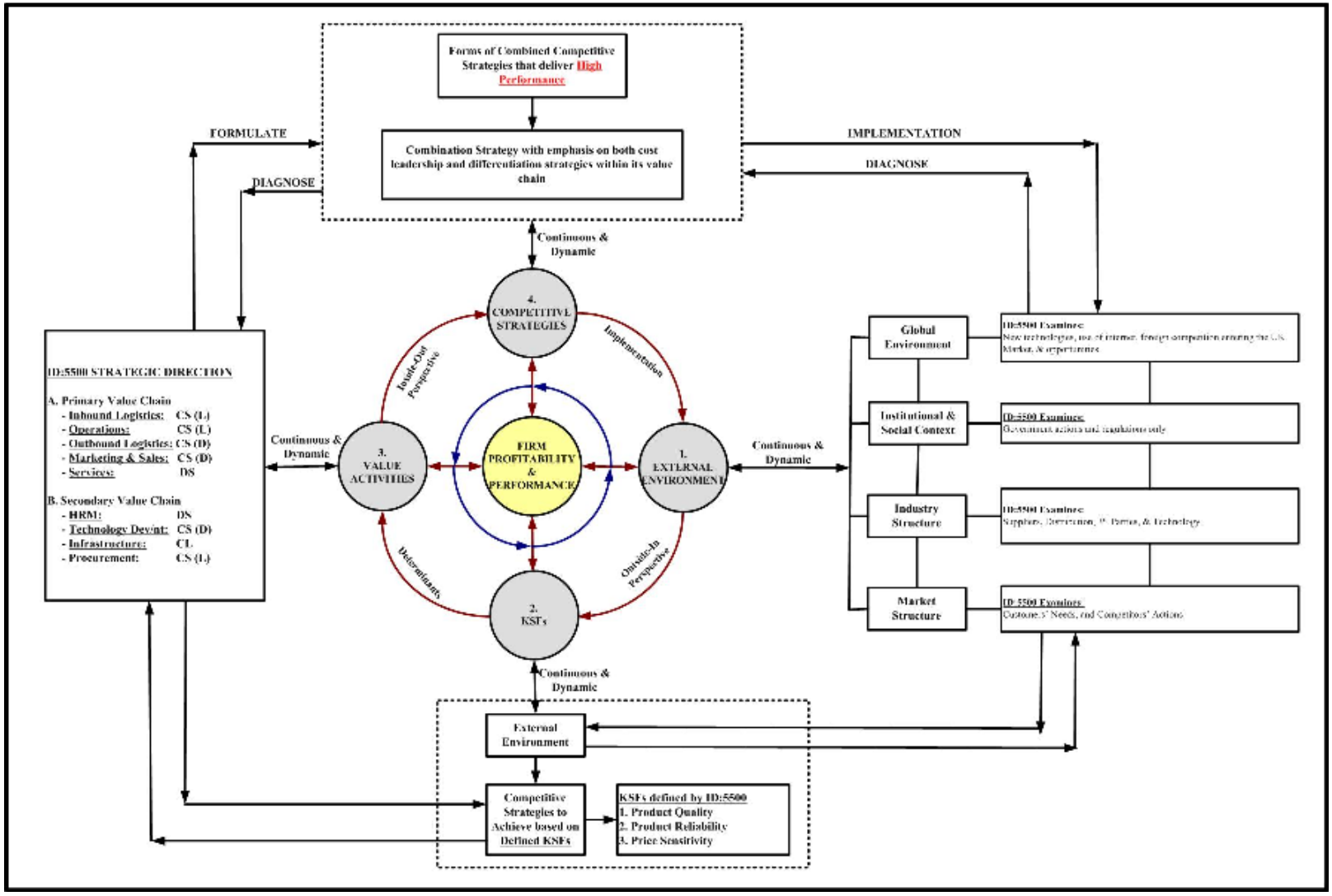
Figure 5.10: Combined Value Chain for ID:5500 (high performance firm)



Regarding the external environment, ID: 5500 examines the following dimensions: (1) Industry Structure: they examine use of technology, supplier & 3rd party performance, and distribution; and (2) Market Structure: constant evaluation and identification of customer needs and anticipation of competitor actions. Regarding the KSFs in relation to the formulation of competitive strategies, ID: 5500 considers the following factors as crucial: (1) Product quality; (2) Product reliability; and (3) Price sensitivity. Based on the previous analysis, the following *Figure 5.11* shows the theoretical framework which integrates the strategy-performance fit, key success factors, value chain, and characteristics of the external environment for ID:5500. The framework provides an overall direction for practitioners where their firm faces a low financial performance and wishes to gain competitive advantage that leads to high performance. In summary, the overall competitive strategy of ID:5500 is based on a combination strategy.

Based on the results presented in *Table 5.13*, ID:1000 has a positive relationship between strategy synthesis and firm performance. Similarly to ID:5500, although their turnover figure decreased by -8 per cent between year 2 and year 3 was increased by 72 per cent between year 1 and year 2. They achieved this turnaround by employing (for a detailed analysis of their specific activities refer to *Figure 5.12*): (1) Inbound Logistics: Pure Combination Strategy; (2) Operations: Combination Strategy with strong emphasis on Cost Leadership; (3) Outbound Logistics: Pure Combination Strategy; (4) Marketing & Sales: Combination Strategy with strong emphasis on Differentiation; (5) Services: Combination Strategy with strong emphasis on Differentiation; (6) Human Resource (HRM): Differentiation Strategy; (7) Technology Development: Pure Combination Strategy; (8) Infrastructure: Cost Leadership Strategy; and (9) Procurement: Combination Strategy with strong emphasis on Differentiation.

Figure 5.11: Competitive Strategy Framework of ID:5500



In terms of the external environment, ID:1000 takes into consideration similar characteristics to ID:5500. Regarding the KSFs in relation to the formulation of competitive strategies, ID: 1000 considers the following factors as crucial: (1) Product quality, reliability, and good product design; (2) To be Competitive & Reliable; (3) On Time Full Deliveries to Customers and Reputation; and (4) Compatibility with Legislation.

Based on the previous analysis, the following *Figure 5.13* shows the theoretical framework which integrates the strategy-performance fit, key success factors, value chain, and characteristics of the external environment for ID:1000. Similarly to ID:5500, the framework provides an overall direction for practitioners that their firm faces a low financial performance and wishes to gain competitive advantage which leads to high performance. In summary, the overall competitive strategy of ID:1000 is based on a pure combination form in addition to combined strategies with emphasis on differentiation within their value chain.

Based on the results presented in *Table 5.13*, ID:3000 has a positive relationship between strategy synthesis and firm performance. Their turnover figure increased constantly between year 2 and year 3 (by 91 per cent) and year 1 and year 2 (by 58 per cent). They achieved this performance by employing the following strategic synthesis within their value chain activities (for a detailed analysis of their specific activities refer to *Figure 5.14*): (1) Inbound Logistics: Combination Strategy with strong emphasis on Cost Leadership; (2) Operations: Pure Combination Strategy; (3) Outbound Logistics: Combination Strategy with strong emphasis on Differentiation; (4) Marketing & Sales: Combination Strategy with strong emphasis on Differentiation;

Figure 5.12: Combined Value Chain for ID:1000 (high performance firm)

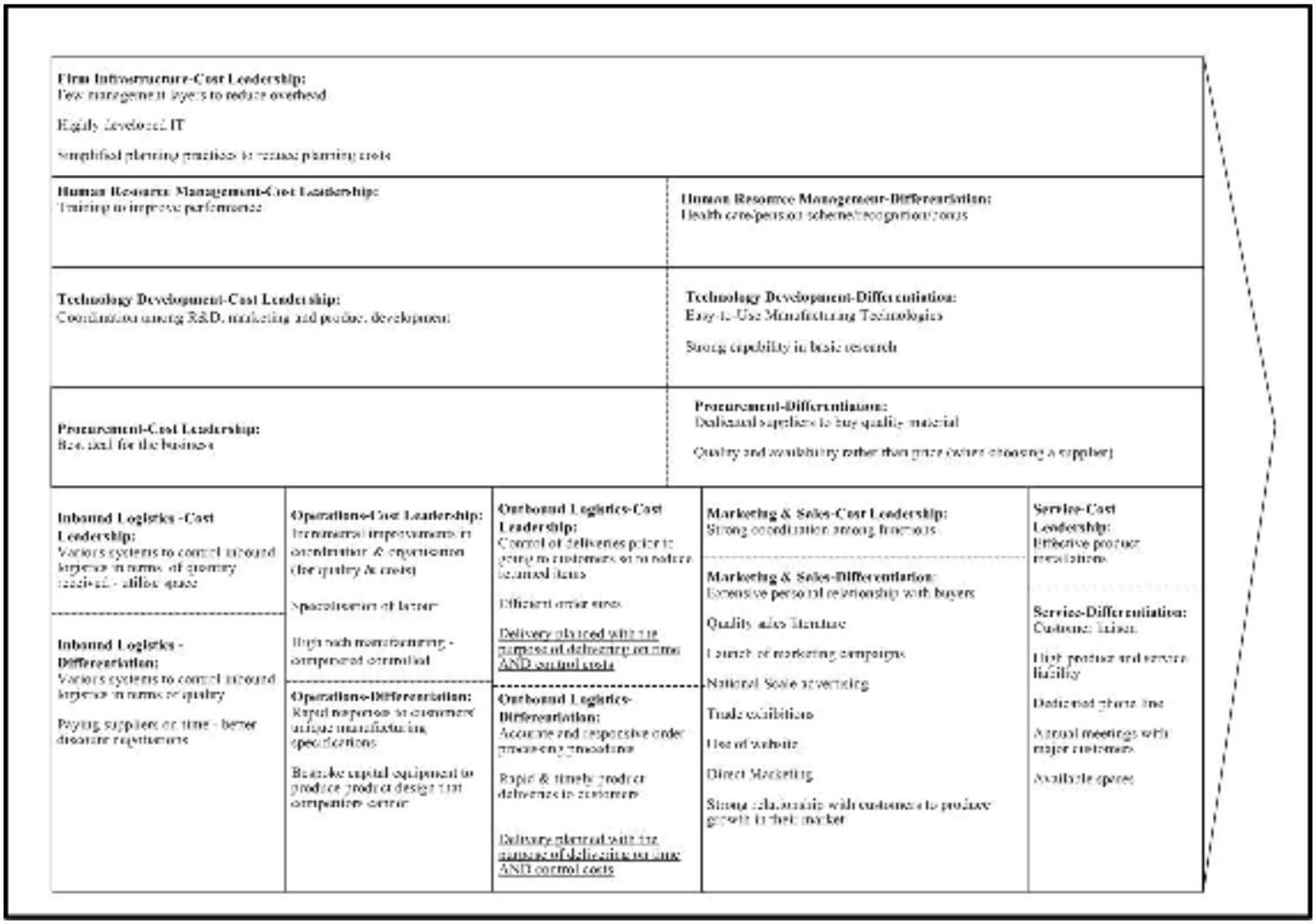
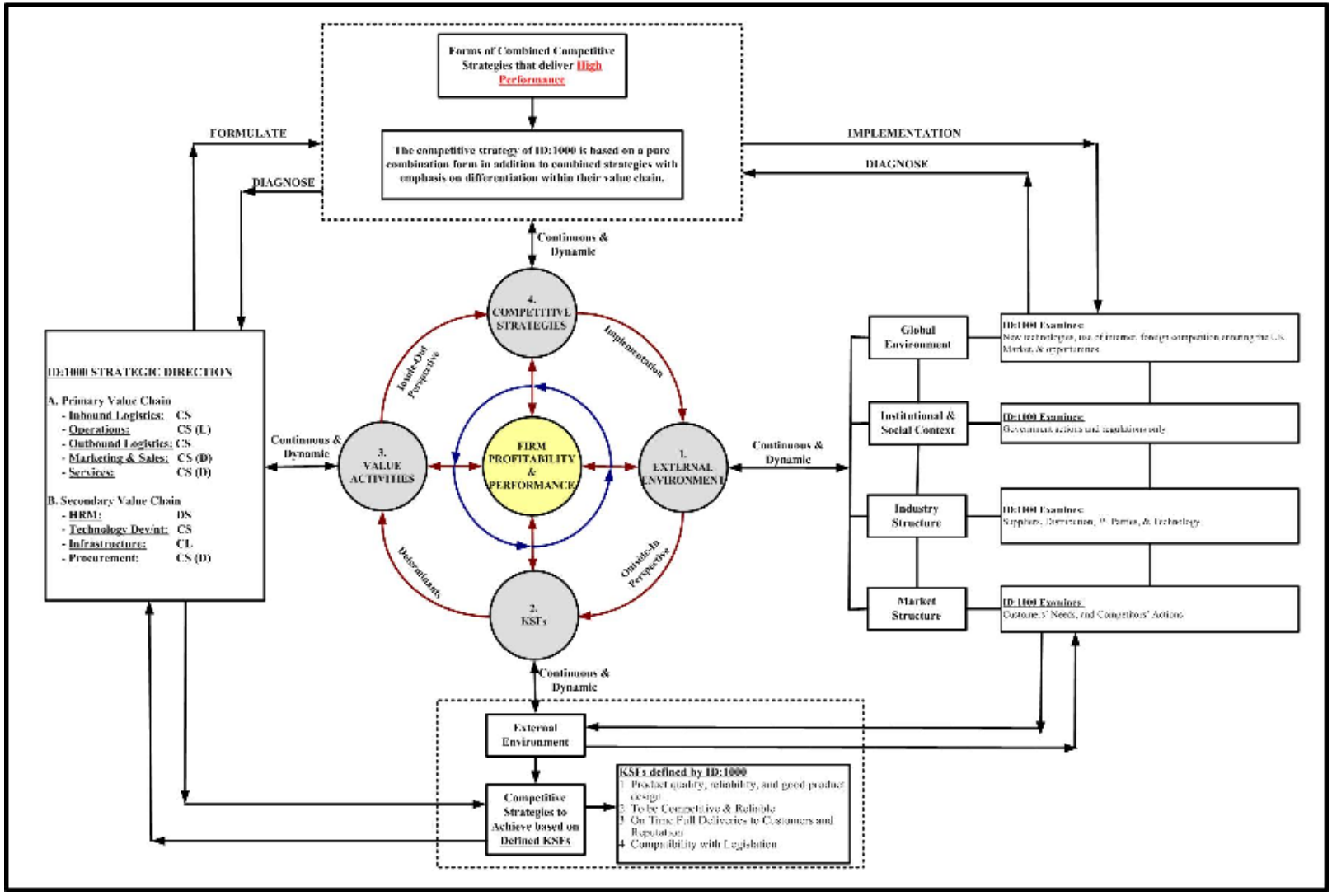


Figure 5.13: Competitive Strategy Framework of ID:1000



(5) Services: Differentiation Strategy; (6) Human Resource (HRM): Differentiation Strategy; (7) Technology Development: Combination Strategy with strong emphasis on Differentiation; (8) Infrastructure: Pure Combination Strategy; and (9) Procurement: Cost Leadership.

In terms of the external environment, ID:3000 takes into consideration similar characteristics to ID:5500 & ID:1000. Regarding the KSFs in relation to the formulation of competitive strategies, ID:3000 considers the following factors as crucial: (1) Product quality, reliability and high product standards; (2) Product Innovation (new features but bring costs down); (3) Compatibility with Legislation; and (4) Highly Specialised Sales Force.

Based on the previous analysis, the following *Figure 5.15* shows the theoretical framework which integrates the strategy-performance fit, key success factors, value chain, and characteristics of the external environment for ID:3000. The framework provides an overall direction for practitioners that their firms possess a good relationship between strategy synthesis and performance and wish to sustain high performance. In summary, the overall competitive strategy of ID:3000 is based on a pure combination form in addition to combined strategies with emphasis on differentiation within their value chain

Figure 5.14: Combined Value Chain for ID:3000 (high performance firm)

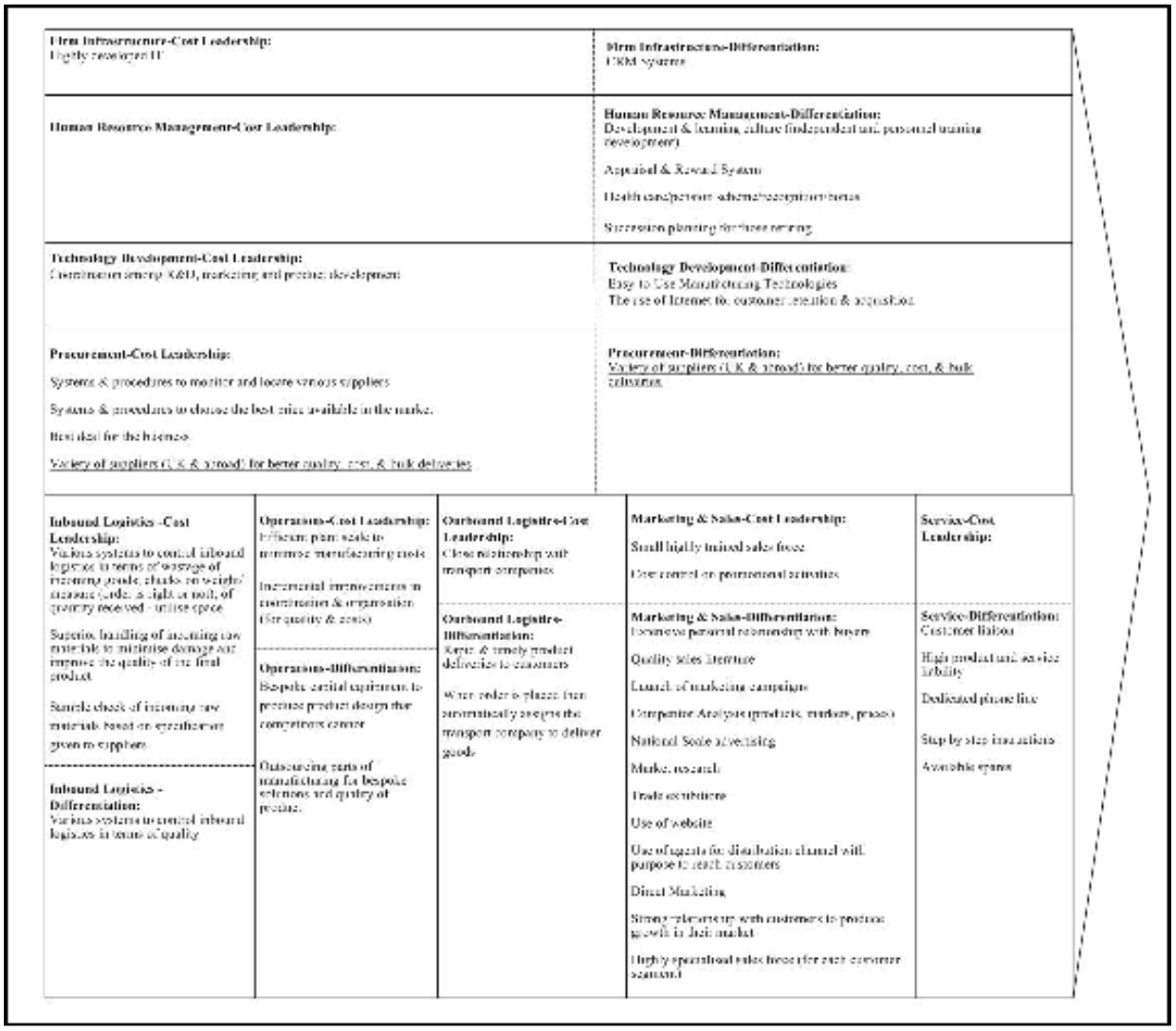
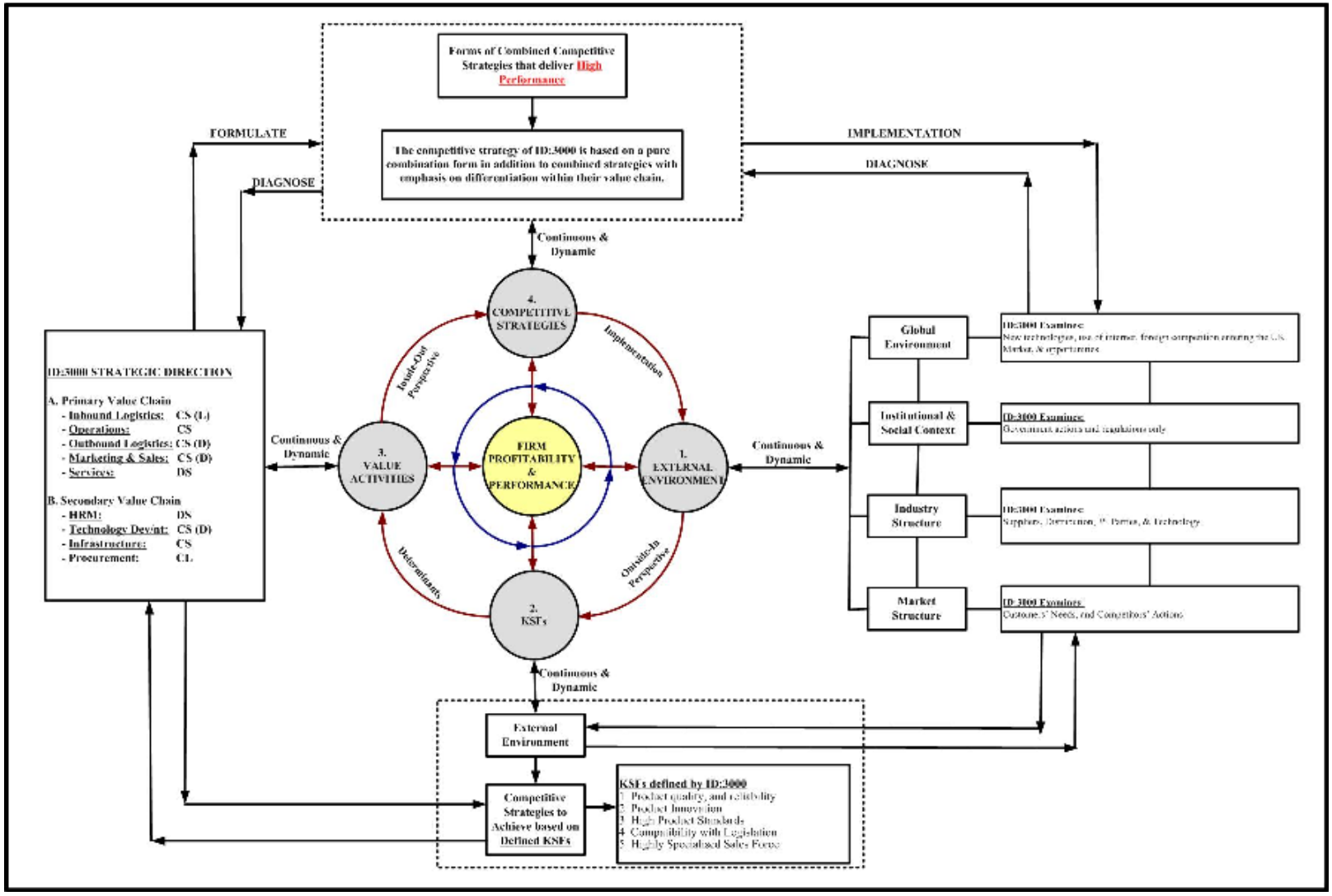


Figure 5.15: Competitive Strategy Framework of ID:3000



To summarise the analysis so far, the data collated indicate (refer to *Table 5.13*) that there are three firms with high performance (which the above analysis is based on). ID:5500 & ID:1000 provide a good example for companies that have faced low performance in the past and wish to employ a competitive strategy that will allow them to outperform their competitors and as a result gain a competitive advantage. On the other hand, the competitive strategy of ID:3000 could be utilised by firms that have acquired high performance and wish to sustain it in the near future. Within the sample, the majority of companies (ID:2500, 3500, 4000, 4500, 5000, 6000, 6500, 7000, 7500, and 8000) appear to have a positive relationship between competitive strategy employed and firm performance. These companies are characterised by a medium performance as compared to ID:1000, 3000, & 5500 which have shown a soaring increase in their turnover figures. Finally, two companies (ID:1500, 2000) have exhibited a negative relationship between competitive strategy utilised and firm performance, and therefore UK MSMEs should avoid their example.

5.6 Conclusion

During the discussion which took place in Chapter Two, a number of gaps in the literature were identified that current frameworks have not answered. For instance, the majority of studies employ Porter's generic strategies to investigate firms' competitive strategies. Although Porter (1985) states that the value chain framework should be considered as a tool for formulating, diagnosing and implementing generic strategies (cost leadership and differentiation), those studies simply examine whether firms employ a differentiation or cost leadership strategy. Whilst there are studies investigating the generic strategies within an area of the primary or secondary value chain activities (refer to Chapter Two), there are no studies linking the overall competitive strategy formulation with the value activities.

To address those gaps this thesis introduced a theoretical framework in Chapter Two. To test the competitive strategy framework for UK's MSMEs, this study's research design used a qualitative approach by carrying out a number of interviews (refer to Chapter Three). This thesis, contributes to original knowledge by indicating those activities which UK MSMEs are currently employing with the purpose of formulating and developing successful competitive strategies.

Based on the null hypothesis set in Chapter Three and the results produced in Chapter Four, the data analysis indicate that there are forms of combination strategy which are associated with better performance. One of the most significant findings to emerge from this study is that Porter's generic strategy typology is not employed by UK MSMEs. This study has found that generally, there are functions within the value chain (see previous sections regarding Marketing & Sales, and Procurement) that firms chose to employ a strategic direction that fits within Porter's description of either differentiaton or cost leadership strategy. Notwithstanding, the overall strategic direction of firms is based on a combination of activities that blends elements from both differentiation and cost leadership strategies. In terms of defining successful competitive strategies that deliver high performance, the findings indicate that there are combinations of strategies that are more successful than others. It was also shown that the external environment and KSFs should be taken into consideration when formulating competitive strategies (in comparison to a number of previous studies and the data analysis presented in Chapter Four which did not include the dynamism of the above two variables). All firms that participated in the interviews stated that knowing and analysing their external environment is crucial for success in a continually changing marketplace.

A number of caveats need to be noted regarding the qualitative study. First, a limitation of this study is that the numbers of participating firms were relatively small. Second, the current investigation was limited by the performance variables employed to investigate the strategy – performance relationship. The financial data were collated from the financial statements published in the online database OneSource and included data from the last three years of the participating firms. Ideally, and based on previous studies, the change in growth or decline in their figures should include the last five years of their published accounts. However, there were firms for which financial data were only available for the last three years. Thus, the researcher decided for appropriate comparison in their financial figures to include only the last three years (something that was common to all participating firms).

Despite the above limitations, these findings enhance our understanding of competitive strategy and provide new insights in the formulation of successful strategies for MSMEs. The present study confirms previous findings and contributes additional evidence that suggests that UK MSMEs should employ combined competitive strategies with the purpose of gaining higher firm performance. The findings from this study make several contributions to the current literature. First, it identified that UK MSMEs employ a combination strategy when they are investigated within the value chain activities. Thus, this study contradicted the general conclusions found in previous studies and provided empirical evidence that Porter's typology of generic strategies is not useful for UK MSMEs. Second, it stressed the importance of integrating and taking into consideration the external environment and KSFs when firms formulate competitive strategies. Third, the findings identified that UK MSMEs employ single generic strategies to specific activities within value chain; for instance the majority of firms are differentiators within marketing and sales but cost leaders within procurement.

Fourth, this research will serve as a base for future studies investigating successful competitive strategies by testing the theoretical framework in a larger sample.

In general the findings of this study suggest that there are some implications for MSMEs. First, it suggests that firms should investigate the formulation of competitive strategies within the value chain activities and not as was initially described by Porter (1980). Second, firms should take into consideration that both cost leadership and differentiation can lead to higher performance as long as they choose the right mix of activities. Third, it is important to investigate the dynamism of the external environment and KSFs and integrate them in the development of their competitive strategy. Fourth, the theoretical model suggests that this process should be circular which indicates continuity and thus UK MSMEs should constantly evaluate and review their strategic directions and synthesis. Fifth, the theoretical framework could be used by UK MSMEs as a framework for analysis and thus audit their existing strategy. Their results could be compared to one of the best performing firms in the sample and identify those gaps that may require improvement. However, the researcher suggests that this comparison should be treated with caution and firms should be aware of other factors within their organisation, such as resources, know-how and expertise.

The next Chapter provides a summary of the research described in this thesis. The discussion begins with the objectives of this study, the process of the research including a summary of the research methodology employed, presents various concluding remarks, and provides recommendations for further research.

Chapter 6

EVALUATION & CONCLUSION

6.1 Introduction

This chapter provides an evaluation of the research described in this thesis. Section 6.2 re-states the objectives and process of the research. Section 6.3 demonstrates a summary of findings and results that this analysis produced in relation to the hypothesis set out in Chapter Three. Section 6.4 discusses the major findings, contributions made, and implications for SMEs managers. Section 6.5 highlights this thesis limitations and a number of considerations to be taken into account. Finally, section, 6.5 provides recommendations for further research.

6.2 Study Overview

This thesis suggests that research from the field of competitive strategy can be organised around the concepts of value chain activity, and the strategy-performance fit. Porter (1985) introduced the concept of value chain as the basic tool for examining the activities a company performs and their interactions with a view to identifying the sources of competitive advantage. Porter's (1980) competitive strategy typology has been empirically tested in relation to firm performance based on a number of variables, which relate to his definition of generic strategies.

As discussed in Chapter One, the overall aim of this research project was to investigate competitive strategy typologies and in the process, it tested Porter's (1980, 1985)

framework of generic strategies, and thus discover firms' preferred strategic syntheses. The researcher created three goals for the research that were intended to build upon Porter's (1980) generic strategies typology: (i) to investigate the types of competitive strategies employed by MSMEs, and test the link between strategy and firm performance; (ii) to examine the synthesis of successful competitive strategies (either in their pure or combined form); and (iii) to evaluate whether firms use both primary and secondary activities of the value chain when formulating competitive strategies.

The literature review served three basic purposes: to provide a concept of competitive strategy, its context and the role played in firm performance; to review competitive strategy research in relation to Porter's (1980) generic strategies; to identify a number of gaps within the literature and synthesise findings from those reviews in a theoretical framework.

Porter's (1980) overall definition of strategy was adopted by the researcher; this provided a point of origin for the literature review. Porter's generic strategies have been studied extensively and considerable support for their existence and effectiveness has emerged (Hall, 1980; Dess & Davis, 1984; Kim & Lim, 1988; Miller, 1988; Calingo, 1989). It has become the dominant paradigm in business policy and strategy research (Hill, 1988; Murray, 1988). Porter's framework of generic strategies is inherently tied to firm performance (Powell, 1995). Porter's definition of generic strategy typology was elaborated in relation to assisting firms to gain competitive advantage over rivals. The researcher also provided a specific definition of the value chain framework, which according to Porter (1985), can be used to analyse and formulate competitive strategies. Using Porter's (1980) overall definition of generic strategies, the researcher provided an

underpinning concept of strategy and described the context and role of competitive strategy.

The researcher identified numerous competitive strategy frameworks within the field of strategic management literature. Thus, the part of review dealing with competitive strategy literature outlined a number of frameworks. This outline enabled the researcher to identify a stream of research that made an outstanding contribution to the classification of various competitive strategy frameworks. The review of those frameworks served a dual purpose: it indicated appropriate theoretical characteristics of competitive strategy for inclusion in the theoretical framework; and it also identified a number of gaps within the literature.

The researcher then provided an outline of the development of competitive strategy that empirically tested Porter's (1980) generic strategies. A number of empirical studies (for instance: Hall, 1980; Hambrick, 1983; Dess & Davis, 1984; Robinson & Pearse, 1988; Green et al., 1993; Marques et al., 2000; Silva et al., 2000; and Cater & Pucko, 2005) have supported Porter's typology and their applicability by firms and identified that firms choosing a single generic strategy will result in higher performance compared to those firms characterised as 'stuck-in-the-middle'. On the other hand, Porter's (1980) assertion that generic strategies are mutually exclusive has provoked extended criticism and has been questioned on both the theoretical and empirical fronts (Phillips et al., 1983; White, 1986; Miller & Friesen, 1986; Kim & Lim, 1988; Miller & Dess, 1993; Helms et al., 1997; Parnell, 1997; Yamin et al., 1999; Lau, 2002; Spanos et al., 2004; and Allen et al., 2007).

Additionally to the contradiction of the evidence provided by a number of empirical studies in relation to Porter's applicability and usability by firms, this study identified a number of gaps within the literature. First, the majority of the research either supporting Porter's framework of generic strategies or not, has been conducted in relation to US businesses (for instance, Miller & Friesen, 1986a/b; White, 1986; Wright et al., 1988; Wright et al., 1991; Miller & Dess, 1993; Rubach & McGee, 1998; Lau, 2002; Ebben & Johnson, 2005). Only a limited number of studies were focused in European countries (for instance: Portugal (Green et al., 1993; Silva et al., 2000; Marque et al., 2000; Jacome et al., 2002); Greece (Spanos et al., 2000; Spanos & Lioukas, 2001); and Slovakia (Cater & Pucko, 2005). In addition, Porter's framework has been examined mainly in connection with US manufacturing SMEs (such as Chandler & Hanks, 1994; Beal, 2000; Pelham, 2000). Thus, there is a gap in the literature in relation to the employability and usability of Porter's typology in the UK MSMEs sector.

Finally, the major gap in the literature identified by the researcher is the 'missing link' between the value chain framework and the generic strategies typology. As was indicated in Chapter Two, studies either tested Porter's generic strategies based on a number of strategic variables proposed by Porter's definitions of competitive strategy or by other research (mainly Miller & Dess, 1984). Porter (1985) stated that a business could gain competitive advantage by performing value chain activities more cheaply or differently than its competitors and by managing linkages among its value chain activities. The value chain is therefore, a logical way of looking at the overall business activities, with the purpose of formulating successful competitive strategies (Porter, 1985). Thus, the value chain framework could be considered as the main tool for formulating, diagnosing and implementing a generic strategy. However, a number of

studies (Hall, 1980; Hambrick, 1983; Phillips et al., 1983; Dess & Davis, 1984; Robinson & Pearse, 1988; Green et al., 1993; Miller & Dess, 1993; Helms et al., 1997; Parnell, 1997; Marques et al., 2000; Silva et al., 2000; Spanos et al., 2004; Cater & Pucko, 2005; and Allen et al., 2007) employed numerous strategic variables to test competitive strategies and discuss the contribution of different functions in the development of a competitive strategy (for instance, Floyd & Zahra, 1990; Doyle & Wong, 1998; Chan et al., 2004; Valos et al., 2007). There are no studies (at least the researcher is unaware of other research) investigating in depth how different activities of MSMEs' value chain could possibly contribute towards the development of a successful competitive strategy.

In order to provide a concept of what the competitive strategy synthesis for UK MSMEs was to portray, to bridge the gaps within the literature, and to serve as the basis for empirical data collection, the researcher proposed a theoretical framework that combines elements of combined competitive strategies and value chain activities. The theoretical framework was based upon Porter's (1980, 1985) generic strategies typology and value chain framework that received general support in the competitive strategy literature. The framework contained components that described the relationship between external environment, KSFs, value chain activities, competitive strategy and performance. The researcher synthesised theory from the review of competitive strategy literature to describe the characteristics and dynamics of the framework.

As Phase One in this study, and to close the gap in relation to Porter's (1980) generic strategy framework applicability and usability by UK MSMEs, this thesis employed a quantitative analysis of two different datasets that were available from UK Data Archive and a survey questionnaire carried out for the purposes of this study. The analysis was

focused on UK MSMEs and their competitive strategy direction. The variables tested were drawn from a number of previous empirical studies and the results were evaluated against firms' performance.

The researcher analysed the empirical data using two statistical techniques: factor analysis and cluster analysis. Factor analysis was first applied to the responses to the questions of the various datasets found under the dimensions of competitive strategy. This procedure reduced the number of competitive strategy variables, establishing factor loadings and related statistics for input into the cluster analysis. Then, cluster analysis analysed the factor statistics using Ward's method, and the measure of squared Euclidean distance. This produced an agglomeration schedule, which provided the basis for interpreting the number of cluster groups to include in the classification. To identify successful clusters in relation to firm performance, the researcher utilised means, standard deviation and coefficient of variation statistical analyses.

To bridge the gaps identified, and in order to serve as the basis for empirical data collection, the researcher grounded the taxonomy in a theoretical framework that described characteristics of competitive strategy. The data collection and analysis were carried out by employing a qualitative methodology. For the purposes of this study, a semi-structure interview script was operationalised. Its purpose was to synthesise data from UK MSMEs' value chain activities and examine forms of successful competitive strategies.

The qualitative data analysis was based upon Denscombe's (2007) guidelines which consisted of the preparation of data in a readable format and data interpretation by developing relevant codes, and categories. The categories were based upon Porter's

definition of value chain activities, on which the interviewees were asked to pinpoint the value could possibly add to their organisation with the purpose of achieving successful competitive strategies. To ensure the reliability of the instrument, the researcher provided detailed information of its design, and relevant quotes were used throughout the text. Finally, this study evaluated MSMEs' performance in relation to their overall competitive strategy direction.

6.3 Summary of Findings & Results

This exploratory study has been carried out to test the null hypothesis, which was concerned with whether Porter's (1980) generic strategy typology could possibly lead to higher firm performance of UK MSMEs. Moreover, this thesis investigated the formulation of competitive strategies within MSMEs' value chain activities.

In summary, the major conclusions of the present study are: (i) Porter's (1980) single generic strategies are not the best option for UK MSMEs for gaining competitive advantage; (ii) the competitive strategy of successful MSMEs differs from that of the less-successful ones; (iii) the successful MSMEs develop competitive strategies that are characterised by a combination of strategies (but not all forms can lead to higher firm performance); and (iv) generalisations and previous recommendations regarding successful MSMEs competitive strategy should be interpreted with caution.

Overall, the quantitative data analysis supports the null hypothesis set in this thesis. The results from the three different datasets identified only a limited use of Porter's (1980) generic strategy types. It appears that UK MSMEs employ a combination of strategies with the purpose of gaining competitive advantage. However, not all strategy combinations can be successful. Thus, there are forms of combination strategies that

deliver a higher performance to some firms than others. In addition, the qualitative data analysis emphasised that when investigating the formulation of competitive strategies within value chain activities, it appears that UK MSMEs are combining their strategies. Correspondingly, the quantitative analysis provided evidence that forms of combination strategies can deliver higher performance than others. Thus, the qualitative data analysis also supports the null hypothesis.

The evidence from project 4431 suggests that *firms with no clear strategic direction* (something that Porter would classify as "stuck in the middle") perform better, and generate higher turnover than their rivals. The researcher, during the data analysis and in Chapter 3, indicated that limited use of strategic variables could potentially have various implications regarding the outcome of the study. Put simply, the lack of strategy variables to choose from could possibly affect the synthesis of this cluster. A similar type of cluster was identified by Spanos & Lioukas (2001), and according to their results, it produced the lowest performance. However, the researcher advises managers of MSMEs to treat this cluster's strategic synthesis with caution, as further research might be required.

The successful small firms of cluster 5 which have been established for over 20 years, focus on reducing costs, controlling prices but at the same time emphasise flair and creativity, design of their product, various promotional and marketing skills, extensive range of products, and speed of service. MSMEs in this cluster are mainly small, and manufacturers of miscellaneous capital goods, auto and truck parts, and printing. The findings regarding this cluster's performance suggest that MSMEs focus on generating average turnover but high pre-tax profits. Thus, the successful firms of this cluster feel the pressure to reduce costs but also concentrate on activities that will increase their

turnover. Thus, MSMEs of this cluster could increase their differentiation efforts with the purpose of achieving higher turnover, and at the same time, focus on keeping the costs down.

Another successful cluster in terms of pre-tax profits is Cluster 1, which consists of MSMEs that employ Porter's differentiation strategy. The results from this cluster support Porter's (1980) differentiation strategy, and its relation to high performance. The successful MSMEs of this cluster develop their competitive strategy on flair and creativity, design of their product, various promotional and marketing skills, extensive range of products/expertise, and speed of service. However, it seems that MSMEs in this cluster have performed better in relation to controlling their costs (because of the high pre-tax profits) and not in increasing their turnover. Based on Porter (1980) and other studies (i.e. Silva et al., 2000; Lumpkin & Dess (2006), differentiators focus on various activities that result to higher turnover. Thus, the findings here appear to be odd. The researcher suggested in Chapter Three, that the limited number of variables might have an implication regarding the synthesis of competitive strategy in this cluster. Firms in this cluster are mainly small, but there are companies of micro and medium size and manufacturers of miscellaneous capital goods, auto and truck parts, and electronics.

Similarly, project 4434 partially supports the null hypothesis. One of the more significant findings to emerge from this project is that the differentiators have performed well in relation to pre-tax profits and not turnover. As was mentioned in the previous paragraph this has major implications for firms and it is suggested that UK MSMEs should treat this cluster with caution. This was the only cluster that fits the requirements of the differentiation strategy as was initially defined by Porter (1980).

Similarly to project 4431, there is a cluster with no clear strategic direction. However, in project 4434 MSMEs do not perform well. It appears, that one of the clusters with high performance (cluster 2) employs a combination strategy with strong emphasis on differentiation. Firms of this cluster are mainly of small size and have been operating for over 20 years and consist mainly of manufacturers of products not elsewhere classified. The evidence from this cluster suggests that successful competitive strategy consists of an emphasis on product features, continuous product introduction, strong product reliability and variety. They believe that a custom manufacturing strategy is crucial, and at the same time have introduced production processes and equipment to meet customer needs.

The evidence, from the above two projects, suggests that Porter's differentiation strategy is employed by UK MSMEs. There are however implications regarding the relationship between differentiation and firm performance. It appears that their differentiating efforts do not produce high turnover, but higher pre-tax profits. These results contradict a number of studies (i.e. Dess & Davis, 1984; Marques et al., 2000; Silva et al., 2000), and as a consequence, the researcher suggests that MSMEs should treat this cluster's strategic synthesis with caution. This combination of findings provides evidence that Porter's (1980) cost leadership strategy is not employed by MSMEs. Some of the issues emerging from this finding relate specifically to the number of strategic variables employed by the researchers to test firms' competitive strategy. It was noted, in Chapter Three, that limited use of strategic variables might not provide enough evidence for the synthesis of a successful competitive strategy. This combination of findings provides some support for the conceptual premise that forms of combined strategies could possible lead to higher firm performance.

One of the most significant findings to emerge from the questionnaire survey is that MSMEs do not employ Porter's differentiation strategy but only cost leadership. Firms employing a cost leadership strategy appear to have an average performance compare to all other clusters (but not the lowest). An implication of this finding is the possibility that cost leaders, in a competitive environment, have an average performance because they are not focusing on acquiring new markets or customers. Similar conclusions were drawn by Marques et al (2000), Silva et al. (2000); and Lumpkin & Dess (2006).

The second major finding here is that the successful MSMEs employ a combination of strategies. Firms in Cluster 1 are of medium size, established for over 20 years and are manufacturers of plastics and auto/truck. This cluster is the smallest in the sample and clearly this cluster employs a combined strategy in which they pay great emphasis not only to cost control (such as: inventory management to improve cost control, the continuous improvement of supplier logistics in terms of cost control and delivery/lead time, the continuous exercise of tight cost controls and attention to detail, and to product design techniques that facilitate automation), but as well quality, product range (the continuous developments on new products), and marketing differentiation (the development of brand name and strategy and the investment in sales promotions as a tool to approach customers and increase profits).

Based on the above findings and as was discussed in Chapter Three, this thesis in phase two, examines MSMEs' competitive strategies as they are formulated within their value chain. Taken together, these results suggest that UK MSMEs employ a combination of competitive strategies and that Porter's single generic strategies are not fully applicable. The results of this research support the idea that firms utilise a number of strategic alternatives to achieve competitive advantage, and not just one of the generic strategies.

The evidence from this study, suggests that the majority of MSMEs utilise single generic strategies in specific value chain activities. For instance, sales and marketing, services, and HRM are mainly used for differentiating purposes, whereas procurement for cost control.

Correspondingly, activities such as technology development can be used for both differentiating purposes and cost control. The results from this study also suggest that operations can be used for strict cost control (automated machinery that reduces the need for labour) and at the same time for product differentiation by allowing flexibility in product development that will meet customer requirements.

Overall the results seem to support the need for a composite framework that emphasises the importance of analysing the formulation of competitive strategies within the value chain. The theoretical framework proposed and tested in this thesis is not only based on the notion that the two perspectives (value chain and combined strategies) are supplementary in explaining firm performance, but also extends this mode of theorising, by explicitly treating the mechanisms through which external environment and KSFs influence the formulation of successful competitive strategies.

Analysing the formulation of competitive strategies within the value chain activities identified a number of firms which can be characterised as high performers (ID:1000, 3000, and 5500). To summarise the analysis so far, ID:5500 & ID:1000 provide a good example of companies that have faced low performance in the past, and appear to employ a combined competitive strategy that allows them to outperform their competitors. The competitive strategy of ID:3000 could be utilised by firms that have acquired high performance and wish to sustain it.

Comparing the three high performers, ID:5500 (a small firm that manufactures chemical products) appears to be the best case scenario for MSMEs that face problems with their performance and seek to employ a successful competitive strategy. In terms of the external environment, they feel that is important to constantly evaluate customer needs and anticipate competitor actions. Product quality and reliability together with appropriate pricing is essential to their competitive strategy. Overall, their competitive strategy can be described as a combination of both cost leadership and differentiation. Within inbound logistics, logistics and procurement their competitive strategy is a combination strategy with emphasis on cost leadership, whereas outbound logistics, marketing, and technology development is characterised by a combination strategy with emphasis on differentiation. Services and HRM are purely used with the purpose of differentiation, whereas infrastructure plays an important role in reducing costs.

ID:1000 is a medium sized company and manufactures products not elsewhere classified. They emphasise their competitive strategy in product quality, reliability and good design. Similarly to ID:5500, the synthesis of their competitive strategy could be employed by firms that wish to gain higher performance. In summary, the overall competitive strategy of ID:1000 is based on a pure combination form. Customers are essential to them, and delivering on time is crucial. Their competitive strategy is characterised as a combination strategy with emphasis on differentiation within marketing, services, and procurement, whereas within operations, a combination strategy with emphasis on cost leadership. Their logistics (inbound and outbound) and technology development consist of elements of both differentiation and cost leadership strategy. Similarly to ID:5500, HRM is used purely to differentiate, whereas infrastructure with the purpose of reducing costs.

ID:3000 is a medium sized enterprise and manufactures product not elsewhere classified. Their strategic synthesis could potentially employed by firms that posses high performance and wish to sustain it. They utilise a combined competitive strategy with emphasis on differentiation. For them, product quality and high standards are essential, and pay a great emphasis to product innovation with the purpose of introducing new features, but also to reduce costs. Within outbound logistics, marketing, and technology development their competitive strategy is characterised by a combination of strategies with emphasis on differentiation, whereas within inbound logistics a combination strategy with emphasis on cost leadership. Within operations and infrastructure they employ a combination strategy that consists of elements from both differentiation and cost leadership strategies. Correspondingly to the two previous companies, ID:3000 utilises elements of differentiation within services and HRM, whereas a cost leadership strategy within infrastructure.

The next section provides a discussion of findings and highlights the contributions made by this study.

6.4 Discussion of Findings & Contributions

Overall, the results seem to support the need for a competitive strategy framework that will seek to synthesise forms of successful combination strategies within the UK MSMEs sector. From a theoretical standpoint, the present findings support the notion that MSMEs with appropriate forms of combinations of competitive strategy will exhibit higher performance. These findings support and build upon previous research (for instance, Phillips et al., 1983; Yamin et al., 1999; Allen et al., 2007) by indicating that single generic strategies will not always result to higher firm performance. Thus, researchers theoretically can move away from studying the differentiation or low cost

strategies alone, and move towards the investigation of forms of combined strategies as are formulated within SMEs' value chain.

Phase 1 of this study analysed the competitive methods considered to be most important by the owners/managing directors of MSMEs. The variables tested (as discussed in Chapter Three, section 3.2) were derived and adapted from a number of previous studies (Dess & Davis, 1984; Miller & Friesen, 1986a; Miller & Toulouse, 1986; White, 1986; Green et al., 1993; Yamin et al., 1999; Marques et al., 2000; Allen & Helms, 2006; Allen et al., 2007). One of the most significant findings to emerge from this study is that the first two projects (4431 & 4434) did not produce any clusters employing a cost leadership strategy. However, it generated a cluster utilising the differentiation strategy. The survey questionnaire, on the contrary, produced only one cluster employing a cost leadership strategy, and there are no SMEs focusing on differentiation strategy. This finding admittedly contradicts the majority of previous studies (for instance, Kim & Lim, 1988; Nayyar, 1993; Marques et al., 2000; Silva et al., 2000; Spanos & Lioukas, 2001; Allen et al., 2007). Their data analysis identified businesses employing both generic strategies, whether successful or not, in their pure form. It is difficult to explain this result, but it might be related to the different strategy variables used in each study. Put simply, the choice of the number of competitive strategy variables could potentially skew the findings and hence might distort comparison between results. For instance, 4431 and 4434 projects investigated more differentiation rather than cost leadership variables, whereas they survey questionnaire employed a symmetrical ratio of factors (12:12) from both strategies.

Similarly, each project produced a cluster that has 'no clear strategic direction'. This group of SMEs could fit to Porter's depiction of firms that do not know what are they

doing, in terms of competitive strategy, and thus are stuck in the middle. The findings of project 4434 and the survey questionnaire are consistent with those of Parker & Helms (1992) and Spanos et al. (2004), who found that firms employing such strategic synthesis have a negative relationship between competitive strategy and business performance. The data analysis of project 4431 generated a similar cluster, but contrary to the previous studies, achieved the highest turnover compared to other SMEs. These differences, and as was highlighted by the researcher in previous sections, can be explained in part by the the limited use of strategic variables. Another possible explanation for this is that SMEs might have developed this specific strategic direction accidentally, or because of a specific situation in their industry, which allowed them to build a positive relationship between strategy and performance. These results are inconsistent with those of other studies, and SMEs should treat this strategic synthesis with caution. Exploring this finding is, however, another interesting area for research.

Another important finding was that single generic strategies, as described by Porter (1980) and empirically supported by a number studies (i.e. Hall, 1980; Dess & Davis, 1984; Cronshaw et al., 1990; Green et al., 1993; Marques et al., 2000; Cater & Pucko, 2005), did not show any positive relationship between MSMEs and business performance. Secondly, and somewhat surprising, clusters utilising a differentiation strategy performed better in terms of pre-tax profits, rather than turnover. Employing a differentiation strategy would entail promoting the brand or a product resulting to higher costs across a number of functional areas, in order to support it (Helms et al., 1997). However, high pre-tax profits indicate that SMEs are effectively controlling their costs, something that contradicts the initial purpose and objective of a differentiation strategy. Similarly to the previous paragraph, these differences can be explained in part by the the limited use of strategic variables. For example, the results

from the survey questionnaire indicate that there is not a positive relationship between firm performance and SMEs employing a cost leadership strategy. Interestingly enough, the introduction of equal proportion of strategic variables (12:12) did not produce a cluster that would be classified as a differentiator. This contradiction has not previously been described by the majority of previous studies (Hall, 1980; Dess & Davis, 1984; Kim & Lim, 1988; Cronshaw et al., 1990; Green et al., 1993; Helms et al., 1997; Beal & Yasai-Ardekani, 2000; Marques et al., 2000; Silva et al. 2000; Spanos & Lioukas, 2001; Cater & Pucko, 2005; and Allen et al., 2007), which their findings support the use of the differentiation strategy.

It is interesting to note, that the results of this research show that several strategies are appropriate to MSMEs. Combined strategies of differentiation and low cost do occur and are associated with high performance. Although these results differ from Porter's (1980) original definition of a successful competitive strategy, and some published studies (i.e. Hall, 1980; Cronshaw et al., 1990; Green et al., 1993; Marques et al., 2000; Cater & Pucko, 2005), they are consistent with those of Kim & Lim (1988), Nayyar (1993), Beal & Yasai-Ardekani (2000); Marques et al. (2000), Silva et al. (2000), Spanos & Lioukas (2001), and Allen et al. (2007). The most interesting finding was that not all forms of combination strategy could lead to higher performance. These results are consistent with those of other studies (such as Helms et al., 1997; Beal & Yasai-Ardekani, 2000; Spanos et al., 2004; Allen et al., 2007), and suggest that there are forms of combined strategies that deliver better performance than others. A possible explanation for this might be that SMEs within various clusters have different sizes or experience within the industry (Helms et al., 1997). Exploring this finding is, however, another interesting area for research.

The findings from Phase 1 of this thesis support the null hypothesis, and indicate that Porter's generic strategies in their pure form are not fully applicable by UK MSMEs. In addition, the findings suggest that there are forms of combination strategies that perform better, and are associated with high performance. Phase 2 of this study, and contrary to Phase 1, approached the investigation of successful competitive strategies in a completely different manner (at least the researcher is unaware of other studies that have used the following approach). This thesis demonstrated in Chapter Two, that one of the major gaps in literature is that empirical studies did not employ the value chain framework to investigate the formulation of competitive strategies. This thesis contributes to the development and enhancement of combined competitive strategies by utilising the value chain framework.

It is interesting to note that in Phase 2 of this study there was no evidence to support the applicability of Porter's single generic strategies. This finding indicates that MSMEs are employing a combination of competitive strategies, rather than Porter's generic strategies in their pure form. This evidence has not been previously described to a number of studies, either supporting Porter (i.e. Hall, 1980; Cronshaw et al., 1990; Green et al., 1993; Marques et al., 2000; Cater & Pucko, 2005), or not (i.e. Kim & Lim, 1988; Nayyar, 1993; Beal & Yasai-Ardekani, 2000; Marques et al., 2000; Silva et al., 2000; Spanos & Lioukas, 2001; and Allen et al., 2007). Previous empirical studies, and Phase 1 of this research, indicated the usability of Porter's typology whether resulting to higher performance or not.

This rather contradictory result may be due to the number of strategy variables employed to investigate MSMEs' competitive strategies (as per the discussion took place in Chapter Three and previous section). Put simply, and contrary to previous

empirical studies where variables were testing firms' overall strategic direction, this thesis adopted a qualitative methodology which allowed respondents to expand and discuss the formulation of strategy in every single function of their value chain. Despite the importance of this result, caution must be applied, as the findings might not be transferable to the general population of SMEs. In future investigations it might be possible to use a different sample size in which advanced statistical methods could be utilised.

One of the most significant findings to emerge from this study is that several combined strategies are appropriate to MSMEs. While it may appear that every strategy works, a closer examination of the findings shows that not all forms of combination strategies are associated with higher performance. These results are consistent with the findings produced in Phase 1 of this thesis and with those of other studies (i.e. Helms et al., 1997; Beal & Yasai-Ardekani, 2000; Spanos et al., 2004; Allen et al., 2007), which suggested that there are combination strategies that deliver higher firm performance than others.

The most interesting finding here was that the syntheses of competitive strategy identified within MSMEs' value chain activities were fundamentally different. This finding is consistent with those of Yamin et al. (1999), and suggests that differences in the configuration of variables employed by firms results to different competitive strategies. Despite the small sample investigated in Phase 2, another possible explanation could be that different industries might require different competitive strategies (Hambrick, 1983, Parker & Helms, 1992). Another possible explanation for this, is that uncertain business conditions and external environmental factors could push managers to explore more strategic options than would normally do (Parker & Helms,

1992). For instance, the successful SME ID:1000 that operates in a mature industry has few competitors in the market, and thus, allowing them to formulate a strategy different than the one developed by ID:3000 that functions within a growing industry. However, more research on this issue is required prior to clearly examining the association between combined competitive strategies and various industry settings.

The qualitative data analysis revealed also that there were not similarities between successful forms of combined competitive strategies. There were however indications that specific activities, such as marketing & sales, and services, were preferred by SMEs with the purpose of employing a differentiation strategy. Correspondingly, there were functions, such as operations and procurement, in which MSMEs employed a cost leadership strategy. The results of this study indicated that MSMEs utilise their activities, in such a manner that could possibly provide the best combination of competitive strategies. This corroborates the ideas of Gupta & Govindarajan (1984) and Beal & Yasai-Ardekani (2000), who suggested that a variety of functional activities could be the most critical characteristic that is linked to the success of competitive strategies. This finding further agrees with Mintzberg's (1988) suggestion on the multidimensionality of competitive strategies. Similarly, this result is in agreement with Reitsperger's et al., (1993) findings which showed, that focusing on a single generic strategy would be 'misleading'. According to the authors, there is need for strategic frameworks that would permit firm level strategies to be located in a 'multi-dimensional space'. Admittedly, this thesis's findings are not directly comparable because of the critical differences in research design and methods employed. However, this thesis provides additional evidence to the literature, by investigating forms of successful strategies within MSMEs' value chain activities.

Finally, the findings from both Phase 1 and 2 of this thesis suggest a need for a re-examination of the concept of competitive strategies. The framework introduced in this study, emphasises the importance for MSMEs to identify and formulate their combined competitive strategy within their value chain. Previous studies of competitive strategy have ignored the importance and dynamism of value chain framework. Thus, the results from this study recommend that strategy researchers should not only pay greater attention to which competitive strategy variables are chosen for examination, but also investigate ways to measure competitive strategies as formulated within firms' value chain.

Some important implications for managers and researchers follow from these conclusions. The findings suggest that, although Porter's model is an excellent initial classification scheme, in reality there are modifications of strategy in practice.

It would be helpful for MSMEs' managers to be aware of that the formulation of successful competitive strategies, could be developed within the value chain and might involve the simultaneous pursuit of differentiation and low-cost strategies. The contingency framework that is developed here, and discussed in Chapter Two, provides the basis for identifying when these two conditions hold. Managers should also be aware that achieving a proper fit between strategy and external environment could lead to high firm performance. To the extent that strategy must match environment for superior performance, it is suggested to managers to continuously assess their business's strategy in terms of its appropriateness for a given, albeit changing environment. In addition, researchers need to consider how the simultaneous pursuit of both strategies might have an impact on the firm's profitability. The qualitative findings

suggested that not all forms of combination strategies could lead to superior performance.

These findings could be helpful for senior managers and others responsible for the development, implementation, or execution of strategies in MSMEs. It is suggested, that top managers must work closely with lower-level managers to implement strategic practices consistent with and supportive of the chosen competitive strategy. It is recommended that the relationship between performance and strategy must be clearly communicated to employees. In that way, they could understand the firm's competitive strategy, but also enhance the linkages between their lower-level strategic practices and the overall firm performance.

To conclude, this study predominantly contributes to knowledge in the field of formulating successful competitive strategies, although it also contributes to knowledge in the field of strategic management. A major contribution is the critical evaluation of the literature regarding the competitive strategy field, where a number of gaps were identified in relation to: (i) Porter's usability by MSMEs; (ii) the relationship between combined strategies and business performance; (iii) the role of the value chain in analysing and formulating successful competitive strategies; and (iv) the lack of empirical research investigating MSMEs' strategic direction in UK.

In Chapter Two, it was identified that there is gap in the literature in relation to Porter's generic strategies and their applicability by UK MSMEs. Despite the importance of MSMEs in the UK economy little of the literature has focused on their specific situation (O'Donnell et al., 2002) and there are limited number of studies investigating their competitive strategy (Helms et al., 1997; Beal & Yasai-Ardekani, 2000; Upton et al.,

2001). In addition, only a small number test Porter's strategic typology in relation SMEs' competitive strategy (Dess & Davis; 1984; Miller & Toulouse, 1986; Helms et al., 1997; Beal & Yasai-Ardekani, 2000; Upton et al., 2001). One of the major contributions made in this study was to close this gap by examining the strategic synthesis of MSMEs and whether generic strategies are employed in a pure or combined form. Based on the findings, Porter's (1980) typology is not fully applicable by MSMEs and there is no clear evidence of whether differentiation and cost leadership strategies can lead to higher firm performance.

An additional gap in the literature was that the majority of studies testing generic strategies based on the form of differentiation and cost leadership alone. They exclude the possibility of a combined strategic synthesis as a typology (Hall, 1980; Hambrick, 1983b; Dess & Davis, 1984; Green et al., 1993; Marques et al., 2000). Despite their findings supported a positive relationship between combined strategy and performance, all their investigations were utilised variables relating to pure generic strategies, and not upon any other forms of strategic synthesis. A combination strategy could have different characteristics than those proposed by previous studies (Miller & Friesen, 1986a/b; Kim & Lim, 1988; Wright et al, 1991; Parnell, 1997; Yamin et al, 1999; Lau, 2002; Allen et al., 2007), and Porter's initial conceptualisation of generic strategies. Thus, another contribution of this thesis was to seek to bridge this gap by investigating MSMEs' successful competitive strategies and their relationship to firm performance. The findings in both Phase 1 and 2 of this study demonstrated, that there are forms of combined strategies, which could lead to higher performance than others.

Another gap identified in the literature was the missing link between the value chain framework and the generic strategies typology. According to Porter (1985), a company

can gain competitive advantage, by performing value chain activities more cheaply or differently than its competitors, and by managing linkages among its functions. The value chain framework can be considered as the main tool for formulating, diagnosing and implementing a generic strategy. This thesis contributed to knowledge by investigating competitive strategies based on the value chain framework, rather than just asking questions about the overall competitive strategy. To examine the above relationship, this study introduced a multi-dimensional framework that incorporated combined competitive strategies as formulated by MSMEs within their value chain. The findings from the qualitative analysis indicated that firms consider employing a variety of strategies with the purpose of achieving higher performance from their rivals. However, the findings indicated that there are forms of combination strategies that are more successful than others.

Certainly this study has many limitations and further research is required to improve the accuracy of these results. These topics are addressed next.

6.4 Further Considerations on and Limitations of the Study

It is important to note that the major objective of this thesis was to carry out an exploratory investigation on MSMEs competitive strategy. The research, thus, has dealt with the content rather than the process of strategy formation, focusing on dimensions of competitive strategy, and consequently, the competitive emphasis, that could be related to MSMEs success in relation to performance.

Hence, this study is different from earlier research in the MSMEs field in some important aspects. It utilises initially a quantitative analysis to test Porter's generic strategies and then a qualitative analysis to test the theoretical framework. Thus, this

thesis utilised a mixed research methodology to investigate UK MSMEs competitive strategies. While this can be acceptable with regards to research methodology, it can be regarded as a weakness of the study with regard to investigating competitive strategies. Despite the advantages reported when using mixed methods, there is a long-standing debate over whether it is viable to combine qualitative and quantitative methods in one study they are based on different philosophical backgrounds that prevent efforts to combine them in a meaningful way (May, 2007). However, lack of a standardised database, for instance comparable to that of the PIMS database, was one of the reasons for reliance on a mixed methodology. Moreover, Phase 1 of this study identified that Porter's typology is not sufficient for UK MSMEs to create successful competitive strategies and thus the qualitative phase was necessary with regards to proposing a framework that could be employed by firms. Mixed methodology is supported by a number of researchers and has been detailed in the methodology chapter (Saunders et al., 2000; Bryman, 2004; Onwuegbuzie & Leech, 2004; and Brannen, 2005).

In addition, to facilitate issues associated with reliability and validity (for both qualitative and quantitative research designs) the researcher took all the necessary steps and based the work on guidelines of Saunders et al. (2000). In terms of validity, the interview sample was drawn by the questionnaire to allow triangulation. Following the interviews carried out, the researcher provided feedback to interviewees by sending them the transcripts for verification, approval and further comments. In terms of reliability, the researcher has included throughout the text detailed information of the research design with the purpose of replicating the findings (for instance, interview script, questionnaire). Relevant quotes are used throughout the text with the reference to various responses. Additionally, full results are presented within the text and attached in the form of appendices.

Firms' performance in this thesis was calculated based on a three year average growth or decline of turnover and pre-tax profits. On the basis of this level, the MSMEs of this study were classified into successful or less-successful. This is a weakness of this study as it could more appropriate to utilise data of five years average growth or decline. However, by examining firms' financial statements it was evident that only a limited number of firms had provided turnover and pre-tax profit data for more than three years. To ensure that there is a commonality in the data analysis the researcher employed the three year average.

The biggest limitation of the study lies in the somewhat modest interview sample size and this means that some caution should be used in interpreting the results. With a larger sample, the analysis of firm performance in relation to the competitive strategy chosen would allow a more valid interpretation of this relationship. In addition, it would certainly allow the use of statistical analysis that would yield clearer, more reliable results with regard to the successful competitive strategy and its dimensions. Though the methodology employed is adequate to analyse the interviewee responses for an initial investigation such as this, it can only capture a very simple representation of the contingent nature of competitive strategy in relation to firm performance.

Another limitation of this study is that it does not take into consideration the manager's/owner's expectations, preferences, and interests in making their firm successful. Despite the importance of the motivational factors of owners and managers in formulating competitive strategies, this study has not measured any relevant variables. Correspondingly, the strategy realised by a MSME may be different from that intended by the decision makers (Hambrick, 1981a; Mintzberg, 1978). An observed discrepancy between intentions and realised strategy may arise from the inability of the

firm to translate its intended strategies into actions (because of unpredictable environmental change, a lack of appropriate implementational capabilities, unrealistic expectations, or owners intentions and personality). Singly, or in combination, these factors may result in an emergent strategy that is observed to be different from the intended strategy. Similarly, another limitation is that this thesis has not investigated whether UK MSMEs have gained competitive advantage accidently or circumstances that allow them to be competitive. According to Jennings & Beaver (1997), the competitive advantage in the smaller firm often arises accidentally as a result of particular operating conditions surrounding the enterprise.

An additional limitation is that the analysis undertaken does not take into consideration the time lag that it would be expected to observe between the implementation of a strategic action and its impact on performance. However, the researcher believes that the observations made in the research reveal general strategic tendencies based on past actions which were successful and, consequently, already reflect the dynamics of the relationship.

Finally, this exploratory study has focused on MSMEs. It should be noted that a similar investigation of service organisations might yield different results. Correspondingly, companies operating in different regions within UK might produce different strategic syntheses.

6.5 Recommendations for Further Research

Despite the contributions made in the field of competitive strategy, this thesis identified a number of areas for further investigation. In the following paragraphs, this study

discusses parts of the thesis that would benefit theory and practice through further application and development.

Using the concepts of competitive strategy development and formulation through the value chain activities, this thesis combined two different approaches from existing competitive strategy research. Such advances in the field of competitive strategy benefits existing and future research by providing a clearer distinction between areas of contributions and making the field accessible to new researchers. A significant opportunity exists to promote the new strategic frameworks through further research published in academic articles, conferences, and other academic areas.

The theoretical framework, the questionnaire survey, and the interview script employed by this thesis could facilitate other studies and endorse empirical knowledge within the field of competitive strategy. Moreover, the introduction of the value chain activities in investigating successful competitive strategies is rather new compared to existing literature examining the overall strategic direction by asking questions of whether firms are cost leaders or differentiators. It makes it especially important to repeat the approach in order to evaluate the configurations found in the typology. In addition, the strength of the theoretical framework employed in this study lies in the description of competitive strategy and value chain activities.

The remaining components of this framework such as KSFs, environment, and company performance, have scope for further improvement. In relation to KSFs and environmental dynamism, further questions could be included for further examination regarding the complexity and degree of change. This would serve the purpose of improving the importance of KSFs and environment in competitive strategy

formulation. Regarding the firm performance variables, the assessment of performance could be improved if a broader range of concepts were included.

The methodology used to produce the theoretical framework is not limited only to the UK. A larger sample of UK MSMEs would provide the basis for competitive strategy investigations. In addition, the research could be used to classify UK MSMEs competitive strategy on a regional basis. That would provide a strong empirical foundation for the field of competitive strategy, enabling research to identify commonly employed syntheses of competitive strategy in different regions. The framework could be employed to examine company performance in other countries.

This thesis investigates competitive strategies of MSMEs. It would be beneficial for the academic and business community for the framework to be tested in other industries other than manufacturing, such services, online businesses, transportation and others. Similar advances could be produced if the framework was tested on different firm sizes. For instance, this framework could be tested on larger companies that have access to a number of resources that SMEs do not have the capability exploiting.

Although the methodology employed in this study has served its purpose, there is potential for improvement to facilitate further research. For instance, one limitation of this research is the sample size for the interviews. A larger sample would allow researchers to identify further syntheses of successful competitive strategies. Moreover, a framework that describes successful strategies of firms is in itself a useful instrument in gaining competitive advantage over rivals, but such a typology is unable to provide insight into managerial thinking behind the selection of particular strategies.

Additionally, this thesis intended to provide contributions to both theory and practice. The element of practice can be only strengthened if companies utilise the framework in formulating their competitive strategies. Further research could disseminate the findings of this study in a format appropriate to practitioners. Thus, dissemination of findings of this research to the broader community would be an asset and especially through submission of articles to conferences and journals.

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APPENDIX 1

Survey Questionnaire

Survey Questionnaire

PART A: *General Questions*

For how long has your company been trading?

Locally: 0–5yrs ☐ 1 6-10yrs ☐ 2 11-20yrs ☐ 3 20yrs+ ☐ 4

Internationally: 0–5yrs ☐ 5 6-10yrs ☐ 6 11-20yrs ☐ 7 20yrs+ ☐ 8

What proportion of your products do you sell you in the following markets(please estimate if not sure)?

UK[9] _____% Eastern European Countries[10] _____%

Western European Countries[11] _____% USA[12] _____%

Canada[13] _____% Asia[14] _____%

Rest of World[15] _____%

PART B: Business Strategies

Q1. How would you describe your company's "major competitive methods"? (16)

_____

Q2. Please RANK for each group A, B, C and D the following strategies that your company is CURRENTLY applying by scoring on the scale from 1 to 6 where:

1 = the most important
6 = the least important

(A)

The identification of under-performing areas in order to cut costs	
The charging of lower prices than your competitors	
The development of brand strategy and name	
The investment in sales promotion as a tool to approach customers and increase profits	
Focusing on inventory management to improve stock control	
The reduction of labour input through mechanisation & automation	

(B)

The offering of a broad range of products	
The development of a continuous improvement process in employees' skills	
The provision of sufficient facilities to support the quality of services	
The achievement of an increased precision through the production lines by reducing defects	
The investment in advertising as a tool to approach customers	27
Focusing on product design techniques that economise on costs of materials	28

(C)

Making conscious efforts to differentiate your services and products from your competitors	
The provision of services that meet competitive quality standard	
The possession of a process to utilise your automation technologies	
The continuous maintenance and use of loyalty schemes	
The continuous exercise of tight cost controls and attention to detail	
The performing of incremental improvements in coordination & organisational structure	

(D)

The continuous developments on new products	
The improvement of supplier logistics in terms of cost control	
The continuous improvement of supplier logistics in terms of quality	
The continuous improvement of supplier logistics in terms of delivery/lead time	
Focusing on product design techniques that facilitates automation	
Focusing on improving product packaging	

Q3. How would you describe your company's overall strategic direction (please TICK only ONE)

Primarily seek to provide the highest quality products and services possible	
Primarily seek to provide the cheapest products and services possible in the market	
Primarily seek to differentiate your products and services from those of your competitors	
Primarily seek to differentiate your products and services from those of your competitors and at the same time to produce them at the lowest cost	
Other (please describe below)	

Other:

Q4. Please RANK the following performing activities/functions that your company is CURRENTLY using to examine ways of improving efficiency and increase profit margins by scoring on the scale from 1 to 5 where:

1 = the most important - 5 = the least important

Marketing & Sales	
Services	
Operations	
Inbound logistics	
Outbound logistics	

Q5. Please RANK the following performing activities/functions that your company is CURRENTLY using to examine ways of improving efficiency and increase profit margins by scoring on the scale from 1 to 4 where:

1 = the most important - 4 = the least important

Human Resource Management	
Research & development	
Materials management	
Company structure & leadership	

PART C: Background information only

Q6. What is your position in the company? (55)

Q7. For how many years have you been working in a managerial role within the industry?

0 – 1 year ☐ 56 2 – 5 years ☐ 57 6 – 10 years ☐ 58
11 – 15 years ☐ 59 16 – 20 years ☐ 60 21+ years ☐ 61

Q8. For your company, the overall market share has (annually):

(Delete the appropriate one)

2003 was increased / decreased 62
2002 was increased / decreased 63
2001 was increased / decreased 64
2000 was increased / decreased 65
1999 was increased / decreased 66

Thank you very much for your cooperation

APPENDIX 2

Script: Semi-Structure Interview

Semi-Structured Interview Script

Thank you for your time and co-operation.

I. BACKGROUND INFORMATION

1. Date of the interview: _____

2. Company Name: _____

3. Address: _____

_____

4. Tel No: _____ Fax: _____

5. Name and title of interviewee: _____

II. INTRODUCTION

1. The purpose of the study is to analyse the strategic direction undertaken by the UK manufacturing SMEs as means of gaining and sustaining competitive advantage
2. If the concepts and terminology used in this interview are not clear, feel free to ask.
3. The information provided will be anonymous (your name will not appear anywhere in the text and all your data will remain confidential) and used solely for the purpose of the study and it will be treated in strictest confidentiality.
4. The issues discussed in the interview will be transcribed. I would like to offer you the opportunity to check the transcribed notes for accuracy and clarity.
5. If there is no objection, I would like to record the interview. This is only for accuracy purposes. If you do not wish any specific parts of the interview to be taped recorded, please indicate accordingly.

III. COMPANY SPECIFIC VALUE CHAIN & ACTIVITIES

1 What are the skills/capabilities and resources/assets that contribute to your business' competitive advantage?

2	Of the set of relevant skills/capabilities and resources/assets identified, how do you select those that need to be developed and strengthened?

3	How do you go about developing, enhancing and protecting your business's skills/capabilities and resources assets to ensure their sustainability?

4 Have you developed a process that investigates better ways of delivering value to the customers?
- If yes, what are those activities that add value to your customers?
- If no, why not?

I will now go through a number of functions/sections and I would like you to describe those activities that are currently essential for your company's success in the market/s in which you operate.

5 Do you currently have a human resource/personnel management function in your organisation?
- If yes, how does this activity add value to your company?
- What are the main activities you currently focus on and analyse as part of your Human Resource/personnel management strategy?
- If no, why not? Do you think you do not need a human resource/personnel management function? Do you achieve similar objective by applying other means? Please explain

6 What are the main activities you currently focus on as part of your company's infrastructure (i.e. CRM, MIS, leadership structure, Internet, Online collaboration, BPR, TQM, Planning)?
- If yes, how does this activity add value to your company?

7 Do you currently have Research & Development function in your organisation?
- If yes, how does this add value to your company?
- What are the main activities you currently focus on and analyse as part of your R&D strategy?
- If no, why not?

8
- What are the main activities you currently focus on as part of your procurement?
- How do these add value to your company?

9
- What are the main activities you currently focus on as part of your inbound logistics (i.e suppliers, third parties)?
- How do these activities add value to your company?

10
- What are the main activities you currently focus on as part of your outbound logistics (i.e suppliers, third parties)?
- How do these add value to your company?

11
- What are the main activities you currently focus on as part of your Operations & Manufacturing (i.e. capital equipment, labour, product specifications)?
- How do these add value to your company?

12
- What are the main activities you currently focus on as part of your Marketing & Sales (i.e. outsourcing, premium pricing, promotions, and brand development)?
- How do these add value to your company?

13 Do you currently have pre-after sales services function in your organisation?
- If yes, how does this add value to your company?
- What are the main activities you currently focus on as part of your services strategy?
- If no, why not?

14 Do you outsource a number of your activities?
- If yes, which ones and why? What are the primary reasons for doing so?
- If no, why not?

15
- Do you consider technological advances important for the success of your business?
- If yes, why? What do you consider to be the major advantages of such technologies?
- If no, why not?

16
- What do you consider to be the Key Success Factors that differentiate between winners and losers in the markets in which your company operates?
- How do you identify the above Key Success Factors?

17 What are the activities that need to be emphasised by your company to meet your Key Success Factors?

18 Do you think the above Key Success Factors are likely to change in the future?
- If yes, why?
- If no, why not? Please elaborate.

19
- If any, could you please outline how you approach cost reductions in your company?
- What are the main risks associated with the activities chosen?
- If not applying cost reductions, why?

20
- If any, how do you go about strengthening or maintaining your differentiation efforts pursued?
- What are the main risks associated with the activities chosen?
- If not applying differentiation, why not?

21 It has been suggested that cost reductions affect differentiation efforts.
- Do you agree or disagree with the statement? Please elaborate.

22 Do you see a trade-off between cost reduction and differentiation efforts? Please explain.

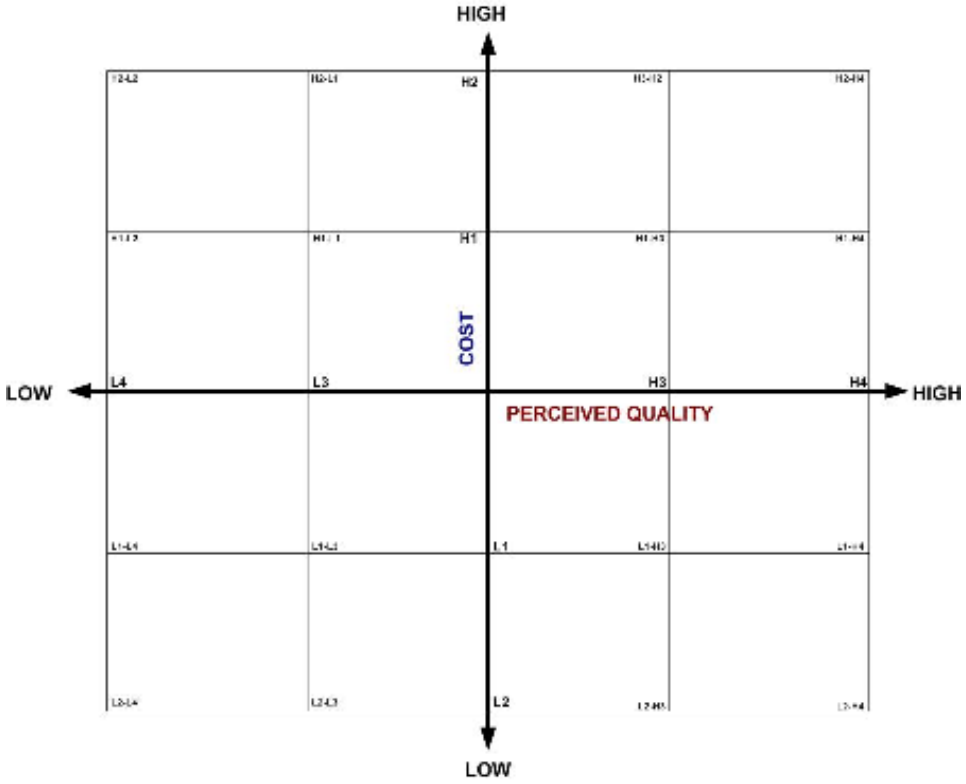
23	Is it important to formulate competitive strategies for your business? If yes, why? - If no, why not?

24
- How many competitors do you have for your main product?
  None
  Few (equals or less than 5)
  Many

25 How would you assess the degree of competition in the main market?
Very High
High
Neither (neither high or low)
Low
Very Low

26 In your opinion, what are the major factors considered by your major competitors in making selling propositions (customer value essentials emphasised by your key competitors)?

27 In the following figure, which position best describes your business' competitive strategies?



28 In the above figure, which position best describes your competitors' competitive strategies? (For major competitors 1,2,3)

29 Do you think that influences from the external environment (explain, globalisation, social, reglations) affect your choice and direction of competitive strategy? If so, please explain

30 What is your company's UK Market Share for your main product?
Less than 5%
5-10%
11-25%
26-50%
More than 50%

31 Is your main market you operate within:
Growing
…Mature
Declining
Turbulent

APPENDIX 3

3a UK Data Archive: Project 4431 - FACTOR OUTPUT - RESULTS

3b UK Data Archive: Project 4431 HIERARCHICAL CLUSTER OUTPUT – AGGLOMERATION SCHEDULE RESULTS

3a UK Data Archive: Project 4431 - FACTOR OUTPUT - RESULTS

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- F A C T O R A N A L Y S I S -

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Communalities

	Initial	Extraction
Competitive advantage: price	1,000	,788
Competitive advantage: marketing and promotion skills	1,000	,391
Competitive advantage: speed of service	1,000	,536
Competitive advantage: established reputation	1,000	,467
Competitive advantage: cost advantages	1,000	,759

Competitive advantage: product or service design	1,000	,569
Competitive advantage: product or service quality	1,000	,570
Competitive advantage: specialised expertise, products or service	1,000	,566
Competitive advantage: range of expertise, products or services	1,000	,519
Competitive advantage: flair and creativity	1,000	,636
Competitive advantage: personal attention to clients	1,000	,490

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,253	29,575	29,575	3,253	29,575	29,575	2,486	22,595	22,595
2	1,837	16,704	46,279	1,837	16,704	46,279	2,049	18,624	41,220
3	1,201	10,922	57,202	1,201	10,922	57,202	1,758	15,982	57,202
4	,966	8,778	65,980						
5	,774	7,040	73,020						
6	,726	6,596	79,616						
7	,552	5,021	84,637						
8	,516	4,688	89,325						
9	,420	3,822	93,147						
10	,405	3,686	96,833						
11	,348	3,167	100,000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component		
	1	2	3
Competitive advantage: product or service quality	,729	,052	-,188
Competitive advantage: specialised expertise, products or service	,710	-,229	-,102
Competitive advantage: range of expertise, products or services	,700	-,170	,004
Competitive advantage: flair and creativity	,615	-,382	,334
Competitive advantage: personal attention to clients	,594	,196	-,314
Competitive advantage: product or service design	,578	-,286	,390
Competitive advantage: established reputation	,549	,062	-,402
Competitive advantage: price	,127	,812	,336
Competitive advantage: cost advantages	,296	,725	,382
Competitive advantage: speed of service	,421	,523	-,292
Competitive advantage: marketing and promotion skills	,280	-,158	,536

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Rotated Component Matrix[a]

	Component		
	1	2	3
product or service quality	,694	,285	,083
: personal attention to clients	,684	,057	,136
established reputation	,683	,028	-,029
specialised expertise, products or service	,586	,453	-,133
speed of service	,583	-,174	,408
range of expertise, products or services	,524	,493	-,036
flair and creativity	,228	,758	-,098
product or service design	,180	,732	,006
marketing and promotion skills	-,124	,598	,134
price	,016	-,049	,886
cost advantages	,109	,121	,856

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Component Transformation Matrix

Component	1	2	3
1	,787	,596	,161
2	,146	-,433	,889
3	-,600	,676	,428

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Component Score Coefficient Matrix

	Component		
	1	2	3
price	-,073	,021	,519
marketing and promotion skills	-,212	,390	,128
speed of service	,289	-,211	,170
established reputation	,339	-,140	-,086
cost advantages	-,062	,098	,502
product or service design	-,077	,393	,029
product or service quality	,274	,016	-,006
specialised expertise, products or service	,204	,127	-,112
range of expertise, products or services	,154	,170	-,046
flair and creativity	-,048	,391	-,035
personal attention to clients	,316	-,114	,013

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Component Scores.

Component Score Covariance Matrix

Component	1	2	3
1	1,000	,000	,000
2	,000	1,000	,000
3	,000	,000	1,000

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Component Scores.

3b UK Data Archive: Project 4431 HIERARCHICAL CLUSTER OUTPUT – AGGLOMERATION SCHEDULE RESULTS & K-MEANS CLUSTER RESULTS

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a. Squared Euclidean Distance used

b. Ward Linkage

Ward Linkage - Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	Next Stage
1	834	1185	,000	0	0	172
2	886	1134	,000	0	0	53
3	141	1070	,000	0	0	462
4	92	944	,000	0	0	777
5	101	847	,000	0	0	781,0
6	173	771	,000	0	0	575
….	….	….	….	….	….	….
1125	112	208	358,696	1059	1042	1144
1126	2	83	365,727	1096	1093	1141
1127	5	8	372,880	1088	1097	1153
1128	79	296	380,250	1065	1098	1154
1129	22	127	387,697	1085	1073	1145
1130	89	118	396,127	1078	1104	1151
1131	3	101	404,906	1122	1062	1153
1132	10	93	413,724	1115	1039	1157
1133	7	48	423,324	1111	1092	1148
1134	6	14	433,369	1071	1114	1151
1135	59	126	443,522	1051	1091	1152
1136	23	61	454,595	1099	1081	1155
1137	56	291	466,193	1123	1086	1161
1138	35	78	478,030	1084	1100	1159
1139	70	75	490,361	1118	1061	1150
1140	16	19	502,708	1108	1077	1146
1141	2	24	515,460	1126	1107	1162
1142	32	53	528,253	1082	1116	1152
1143	4	87	541,216	1110	1105	1150
1144	36	112	556,214	1095	1125	1164
1145	22	28	572,327	1129	1120	1154
1146	16	82	589,496	1140	1112	1159
1147	1	37	606,853	1109	1106	1156
1148	7	115	626,508	1133	1113	1157
1149	18	73	651,422	1124	1117	1158
1150	4	70	678,443	1143	1139	1160
1151	6	89	708,402	1134	1130	1158
1152	32	59	739,136	1142	1135	1162
1153	3	5	770,874	1131	1127	1165
1154	22	79	804,067	1145	1128	1163
1155	23	27	838,182	1136	1121	1161
1156	1	17	875,431	1147	1119	1160
1157	7	10	924,991	1148	1132	1166
1158	6	18	975,047	1151	1149	1168
1159	16	35	1.028,967	1146	1138	1163
1160	1	4	1.091,477	1156	1150	1167
1161	23	56	1.162,254	1155	1137	1166
1162	2	32	1.233,851	1141	1152	1165
1163	16	22	1.344,338	1159	1154	1164
1164	16	36	1.472,653	1163	1144	1168
1165	2	3	1.621,068	1162	1153	1167
1166	7	23	1.851,166	1157	1161	1169
1167	1	2	2.091,473	1160	1165	1170
1168	6	16	2.411,554	1158	1164	1169
1169	6	7	2.924,713	1168	1166	1170
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K-MEANS CLUSTER

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	1	2	3	4	5	6
REGR factor score 1 for analysis 1	-,06392	-4,39145	2,16613	1,11193	-1,17280	-1,38215
REGR factor score 2 for analysis 1	2,26914	-,38156	-1,90192	-1,15931	1,76314	-1,57914
REGR factor score 3 for analysis 1	-1,73755	1,20848	-1,78539	1,84732	2,61054	-1,08365

Iteration History[a]

	Change in Cluster Centers					
Iteration	1	2	3	4	5	6
1	1,703	1,474	1,482	1,508	1,803	1,342
2	,132	,566	,265	,039	,191	,214
3	,068	,308	,061	,047	,110	,208
4	,065	,236	,043	,027	,072	,212
5	,042	,260	,018	,040	,057	,198
6	,055	,182	,009	,059	,038	,113
7	,042	,100	,063	,089	,023	,083
8	,038	,072	,051	,060	,027	,074
9	,033	,093	,055	,071	,016	,134
10	,016	,059	,030	,046	,006	,074

a. Iterations stopped because the maximum number of iterations was performed. Iterations failed to converge. The maximum absolute coordinate change for any center is ,073. The current iteration is 10. The minimum distance between initial centers is 3,631.

Final Cluster Centers

	Cluster					
	1	2	3	4	5	6
REGR factor score 1 for analysis 1	,12695	-1,80876	,98395	,79757	-,16933	-,60065
REGR factor score 2 for analysis 1	,54627	,01810	-,97363	-,13904	,93081	-1,26645
REGR factor score 3 for analysis 1	-,94639	-,59799	-,85718	,66380	,76064	,57656

Number of Cases in each Cluster

Cluster	1	261,000
	2	113,000
	3	148,000
	4	216,000
	5	263,000
	6	170,000
	Valid	1171,000
	Missing	160,000

APPENDIX 4

4.a UK Data Archive: Project 4434 - FACTOR OUTPUT - RESULTS

4b UK Data Archive: Project 4434 HIERARCHICAL CLUSTER OUTPUT – RESULTS & K-MEANS CLUSTER OUTPUT - RESULTS

4.a UK Data Archive: Project 4434 - FACTOR OUTPUT - RESULTS

Notes

Output Created		2008-10-14T23:58:43.878
Comments		
Input	Data	C:\Users\User\Desktop\Cambridge Manufactturing Strt & Competitveness _ My study.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	180
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES comcap1 comcap2 comcap3 comcap4 comcap5 comcap6 comcap7 comcap8 comcap9 comcap10 comcap11 comcap12 comcap13 comcap14 comcap15 /MISSING LISTWISE /ANALYSIS comcap1 comcap2 comcap3 comcap4 comcap5 comcap6 comcap7 comcap8 comcap9 comcap10 comcap11 comcap12 comcap13 comcap14 comcap15 /PRINT UNIVARIATE INITIAL CORRELATION KMO EXTRACTION ROTATION /PLOT EIGEN /CRITERIA MINEIGEN(1) ITERATE(25) /EXTRACTION PC /CRITERIA ITERATE(25) /ROTATION VARIMAX /SAVE REG(ALL) /METHOD=CORRELATION.
Resources	Processor Time	0:00:00.546
	Elapsed Time	0:00:00.449
	Maximum Memory Required	30156 (29,449K) bytes
Variables Created	FAC1_2	Component score 1
	FAC2_2	Component score 2
	FAC3_2	Component score 3
	FAC4_2	Component score 4

[DataSet1] C:\Users\User\Desktop\Cambridge Manufactturing Strt & Competitveness _ My study.sav

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
New product introduction	3,70	1,310	155
Product features	3,50	1,256	155
Product reliability	4,35	,965	155
Product variety	3,21	1,342	155
Custom manufacture	3,61	1,341	155
Meeting customer due dates	4,15	1,070	155
Customer service	4,45	,831	155
Low price	3,45	1,100	155
Newly introduced production processes or equipment	2,61	1,250	155
Conformance quality (low defect rates)	4,08	1,050	155
Performance quality (high performance products)	4,07	1,051	155
Low labour costs	2,85	1,064	155
Low materials consumption	2,76	1,123	155
Low energy consumption	2,28	1,176	155
Low inventory costs	2,71	1,179	155

Correlation Matrix

		New product introduction	Product features	Product reliability	Product variety	Custom manufacture	Meeting customer due dates	Customer service	Low price	introduced production processes or equipment	Conformance quality (low defect rates)	Performance quality (high performance products)	Low labour costs	Low materials consumption	Low energy consumption	Low inventory costs
Correlation	New product introduction	1,000	,680	,294	,375	-,111	-,120	-,069	-,147	,163	-,020	,119	-,047	-,031	-,018	-,031
	Product features	,680	1,000	,313	,481	,022	-,116	,083	-,093	,133	,047	,125	-,053	,026	,019	,029
	Product reliability	,294	,313	1,000	,274	,058	,204	,296	,009	,211	,303	,269	,130	,001	,182	,160
	Product variety	,375	,481	,274	1,000	,211	,145	,167	,113	,191	,195	,178	,123	,115	,235	,182
	Custom manufacture	-,111	,022	,058	,211	1,000	,409	,217	,023	,273	,249	,190	,226	,131	,070	,071
	Meeting customer due dates	-,120	-,116	,204	,145	,409	1,000	,455	,134	,259	,474	,267	,209	,242	,213	,298
	Customer service	-,069	,083	,296	,167	,217	,455	1,000	-,019	,204	,389	,439	,145	,136	,192	,246
	Low price	-,147	-,093	,009	,113	,023	,134	-,019	1,000	,159	,091	-,056	,370	,328	,265	,371
	Newly introduced production processes or equipment	,163	,133	,211	,191	,273	,259	,204	,159	1,000	,247	,189	,350	,151	,237	,174
	Conformance quality (low defect rates)	-,020	,047	,303	,195	,249	,474	,389	,091	,247	1,000	,571	,186	,281	,265	,287
	Performance quality (high performance products)	,119	,125	,269	,178	,190	,267	,439	-,056	,189	,571	1,000	,062	,135	,110	,174
	Low labour costs	-,047	-,053	,130	,123	,226	,209	,145	,370	,350	,186	,062	1,000	,605	,595	,528
	Low materials consumption	-,031	,026	,001	,115	,131	,242	,136	,328	,151	,281	,135	,605	1,000	,636	,595
	Low energy consumption	-,018	,019	,182	,235	,070	,213	,192	,265	,237	,265	,110	,595	,636	1,000	,672
	Low inventory costs	-,031	,029	,160	,182	,071	,298	,246	,371	,174	,287	,174	,528	,595	,672	1,000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,739
Bartlett's Test of Sphericity	Approx. Chi-Square	804,949
	df	105,000
	Sig.	,000

Communalities

	Initial	Extraction
New product introduction	1,000	,756
Product features	1,000	,769
Product reliability	1,000	,438
Product variety	1,000	,544
Custom manufacture	1,000	,712
Meeting customer due dates	1,000	,612
Customer service	1,000	,565
Low price	1,000	,392
Newly introduced production processes or equipment	1,000	,494
Conformance quality (low defect rates)	1,000	,642
Performance quality (high performance products)	1,000	,632
Low labour costs	1,000	,685
Low materials consumption	1,000	,682
Low energy consumption	1,000	,729
Low inventory costs	1,000	,722

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,048	26,987	26,987	4,048	26,987	26,987	3,094	20,626	20,626
2	2,362	15,744	42,731	2,362	15,744	42,731	2,448	16,318	36,943
3	1,859	12,394	55,125	1,859	12,394	55,125	2,284	15,228	52,171
4	1,105	7,370	62,494	1,105	7,370	62,494	1,549	10,323	62,494
5	,843	5,618	68,112						
6	,806	5,371	73,484						
7	,747	4,977	78,461						
8	,608	4,051	82,512						
9	,560	3,733	86,244						
10	,519	3,462	89,707						
11	,395	2,631	92,338						
12	,377	2,513	94,851						
13	,296	1,974	96,825						
14	,256	1,706	98,531						
15	,220	1,469	100,000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component			
	1	2	3	4
New product introduction	,072	,722	,479	-,002
Product features	,163	,742	,437	,033
Product reliability	,407	,491	-,003	-,178
Product variety	,417	,499	,271	,221
Custom manufacture	,390	,055	-,373	,647
Meeting customer due dates	,585	-,027	-,493	,162
Customer service	,523	,200	-,462	-,195
Low price	,372	-,393	,267	,168
Newly introduced production processes or equipment	,491	,155	-,004	,478
Conformance quality (low defect rates)	,630	,164	-,414	-,218
Performance quality (high performance products)	,472	,355	-,417	-,331
Low labour costs	,669	-,361	,287	,157
Low materials consumption	,667	-,365	,297	-,125
Low energy consumption	,710	-,280	,340	-,177
Low inventory costs	,718	-,289	,260	-,237

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
New product introduction	-,079	-,040	,861	-,084
Product features	-,047	,028	,875	-,008
Product reliability	,062	,459	,472	,011
Product variety	,156	,117	,651	,288
Custom manufacture	,006	,178	-,041	,824
Meeting customer due dates	,178	,556	-,158	,496
Customer service	,072	,731	,011	,159
Low price	,572	-,151	-,087	,185
Newly introduced production processes or equipment	,222	,111	,252	,607
Conformance quality (low defect rates)	,192	,761	,029	,162
Performance quality (high performance products)	-,005	,782	,143	,015
Low labour costs	,780	,019	,012	,277
Low materials consumption	,814	,137	-,002	,024
Low energy consumption	,828	,184	,096	-,016
Low inventory costs	,806	,262	,045	-,043

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Component Transformation Matrix

Component	1	2	3	4
1	,715	,564	,210	,357
2	-,499	,301	,811	,046
3	,480	-,624	,543	-,294
4	-,103	-,450	,054	,885

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

4b UK Data Archive: Project 4434 HIERARCHICAL CLUSTER OUTPUT – RESULTS & K-MEANS CLUSTER OUTPUT - RESULTS

Notes

Output Created		2008-10-18T12:05:47.966
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	N of Rows in Working Data File	180
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		CLUSTER FAC1_2 FAC2_2 FAC3_2 FAC4_2 /METHOD WARD /MEASURE=SEUCLID /PRINT SCHEDULE /PLOT NONE.
Resources	Processor Time	0:00:00.063
	Elapsed Time	0:00:00.038

[DataSet1] C:\Users\User\Desktop\Cambridge Manufactturing Strt & Competitveness _ My study.sav

Case Processing Summary[a,b]

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
155	86,1	25	13,9	180	100,0

a. Squared Euclidean Distance used

b. Ward Linkage

Ward Linkage

Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	130	146	,014	0	0	21
2	28	156	,043	0	0	47
3	17	109	,075	0	0	89
4	82	176	,107	0	0	39
…	….	….	….	….	….	….
139	26	71	141,846	129	108	149
140	34	68	149,485	122	104	145
141	3	29	157,355	130	136	146
142	10	44	166,509	133	124	148
143	7	12	176,376	134	137	150
144	6	19	188,217	132	125	148
145	5	34	200,240	138	140	151
146	3	36	214,880	141	120	151
147	1	21	229,716	135	128	149
148	6	10	247,820	144	142	152
149	1	26	270,201	147	139	153
150	2	7	296,842	131	143	153
151	3	5	361,116	146	145	152
152	3	6	441,534	151	148	154
153	1	2	526,805	149	150	154
154	1	3	616,000	153	152	0

CLUSTER K-MEANS RESULTS

Output Created		2008-10-18T12:32:59.099
Comments		
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	180
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any clustering variable used.
Syntax		QUICK CLUSTER FAC1_2 FAC2_2 FAC3_2 FAC4_2 /MISSING=LISTWISE /CRITERIA=CLUSTER(5) MXITER(10) CONVERGE(0) /METHOD=KMEANS(NOUPDATE) /SAVE CLUSTER /PRINT INITIAL.
Variables Created or Modified	QCL_1	Cluster Number of Case

[DataSet1] C:\Users\User\Desktop\Cambridge Manufactturing Strt & Competitveness _ My study.sav

Initial Cluster Centers

	Cluster				
	1	2	3	4	5
REGR factor score 1 for analysis 2	-1,92124	-,32899	1,68725	-1,50710	-,05629
REGR factor score 2 for analysis 2	,63661	-1,26376	,80848	,41181	-2,83708
REGR factor score 3 for analysis 2	,62773	1,10497	-1,71170	-2,66355	,24139
REGR factor score 4 for analysis 2	-2,93407	2,31473	-,26645	2,06226	-1,26519

Iteration History[a]

	Change in Cluster Centers				
Iteration	1	2	3	4	5
1	1,876	1,954	1,657	1,797	1,523
2	,191	,148	,304	,452	,175
3	,116	,117	,406	,543	,238
4	,000	,092	,348	,282	,000
5	,060	,032	,110	,086	,092
6	,086	,030	,080	,055	,174
7	,052	,058	,051	,000	,000
8	,000	,000	,000	,000	,000

a. The current iteration is 8. The minimum distance between initial centers is 4,014.

Final Cluster Centers

	Cluster				
	1	2	3	4	5
REGR factor score 1 for analysis 2	-,85598	-,34922	1,22699	-,01894	-,15895
REGR factor score 2 for analysis 2	,47977	,23233	,26514	,17256	-1,85600
REGR factor score 3 for analysis 2	,07140	,60338	,49760	-1,58347	,07883
REGR factor score 4 for analysis 2	-1,16454	,86329	-,38948	,33793	-,27328

Number of Cases in each Cluster

Cluster	1	26,000
	2	45,000
	3	34,000
	4	30,000
	5	20,000
	Valid	155,000
	Missing	25,000

APPENDIX 5

5a. Questionnaire Survey: FACTOR OUTPUT – RESULTS

5b. Questionnaire Survey: HIERARCHICAL CLUSTER OUTPUT – RESULTS & K-MEANS CLUSTER OUTPUT - RESULTS

5a. Questionnaire Survey: FACTOR OUTPUT – RESULTS

```
FACTOR
  /VARIABLES COM17 COM18 COM19 COM20 COM21 COM22 COM23 COM24 COM25 COM26 COM27 COM28 COM43
COM44 COM45 COM46 COM47 COM48 COM49 COM50
    COM51 COM52 COM53 COM54
  /MISSING LISTWISE
  /ANALYSIS COM17 COM18 COM19 COM20 COM21 COM22 COM23 COM24 COM25 COM26 COM27 COM28 COM43
COM44 COM45 COM46 COM47 COM48 COM49 COM50
    COM51 COM52 COM53 COM54
  /PRINT UNIVARIATE INITIAL CORRELATION SIG KMO EXTRACTION ROTATION
  /CRITERIA MINEIGEN(1) ITERATE(25)
  /EXTRACTION PC
  /CRITERIA ITERATE(25)
  /ROTATION VARIMAX
  /SAVE REG(ALL)
  /METHOD=CORRELATION.
```

Output Created		2008-10-18T19:35:15.833
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	N of Rows in Working Data File	182
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES COM17 COM18 COM19 COM20 COM21 COM22 COM23 COM24 COM25 COM26 COM27 COM28 COM43 COM44 COM45 COM46 COM47 COM48 COM49 COM50 COM51 COM52 COM53 COM54 /MISSING LISTWISE /ANALYSIS COM17 COM18 COM19 COM20 COM21 COM22 COM23 COM24 COM25 COM26 COM27 COM28 COM43 COM44 COM45 COM46 COM47 COM48 COM49 COM50 COM51 COM52 COM53 COM54 /PRINT UNIVARIATE INITIAL CORRELATION SIG KMO EXTRACTION ROTATION /CRITERIA MINEIGEN(1) ITERATE(25) /EXTRACTION PC /CRITERIA ITERATE(25) /ROTATION VARIMAX /SAVE REG(ALL) /METHOD=CORRELATION.
Resources	Processor Time	0:00:00.094
	Elapsed Time	0:00:00.080
	Maximum Memory Required	73176 (71,461K) bytes
Variables Created	FAC1_1	Component score 1
	FAC2_1	Component score 2
	FAC3_1	Component score 3
	FAC4_1	Component score 4
	FAC5_1	Component score 5
	FAC6_1	Component score 6
	FAC7_1	Component score 7
	FAC8_1	Component score 8
	FAC9_1	Component score 9
	FAC10_1	Component score 10

[DataSet1] C:\Users\User\Desktop\My Questionnaire Survey.sav

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
Competitive Strategy Variable: identification of under performing areas in order to cut costs	2,36	1,497	180
Competitive Strategy Variable: charging lower prices	4,60	1,616	180
Competitive Strategy Variable: The development of brand strategy and name	3,13	1,850	180
Competitive Strategy Variable: The investment in sales promotion as a tool to approach customers and increase profits	3,81	1,595	180
Competitive Strategy Variable: Focusing on inventory management to improve stock control	3,58	1,382	180
Competitive Strategy Variable: The reduction of labour input through mechanisation & automation	3,52	1,447	180
Competitive Strategy Variable: The offering of a broad range of products	3,43	1,949	180
Competitive Strategy Variable: The development of a continuous improvement process in employees' skills	2,59	1,405	180
Competitive Strategy Variable: The provision of sufficient facilities to support the quality of services	3,07	1,312	180
Competitive Strategy Variable: The achievement of an increased precision through the production lines by reducing defects	3,27	1,413	180
Competitive Strategy Variable: The investment in advertising as a tool to approach customers	5,09	1,375	180
Competitive Strategy Variable: Focusing on product design techniques that economise on costs of materials	3,56	1,611	180
Competitive Strategy Variable: Making conscious efforts to differentiate your services and products from your competitors	2,49	1,745	180
Competitive Strategy Variable: The provision of services that meet competitive quality standard	2,76	1,293	180
Competitive Strategy Variable: The possession of a process to utilise your automation technologies	4,22	1,380	180
Competitive Strategy Variable: The continuous maintenance and use of loyalty schemes	5,36	1,226	180
Competitive Strategy Variable: The continuous exercise of tight cost controls and attention to detail	2,82	1,342	180
Competitive Strategy Variable: The performing of incremental improvements in coordination & organisational structure	3,35	1,275	180
Competitive Strategy Variable: The continuous developments on new products	2,19	1,711	180
Competitive Strategy Variable: The improvement of supplier logistics in terms of cost control	3,21	1,402	180
Competitive Strategy Variable: The continuous improvement of supplier logistics in terms of quality	3,14	1,317	180
Competitive Strategy Variable: The continuous improvement of supplier logistics in terms of delivery/lead time	3,35	1,339	180
Competitive Strategy Variable: Focusing on product design techniques that facilitates automation	4,13	1,587	180
Competitive Strategy Variable: Focusing on improving product packaging	4,96	1,460	180

Correlation

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1,000	-,082	-,465	-,386	,030	,048	-,093	,122	-,081	,208	-,203	,061	-,196	-,067	,091	-,018	,196	,049	-,208	,142	-,069	,057	,058	,056
2	-,082	1,000	-,283	-,385	-,174	-,080	-,032	-,025	-,007	,037	-,072	,099	-,189	,111	-,070	,002	,101	,114	-,014	,116	,004	-,012	,021	-,093
3	-,465	-,283	1,000	,245	-,312	-,454	,018	-,022	,074	-,193	,215	-,083	,338	,114	-,193	-,004	-,224	-,129	,271	-,211	,059	-,111	-,063	-,004
4	-,386	-,385	,245	1,000	-,305	-,296	,136	-,164	,068	-,243	,321	-,139	,281	-,039	-,105	,069	-,222	-,063	,185	-,082	,021	-,081	-,072	-,016
5	,030	-,174	-,312	-,305	1,000	-,057	-,049	,021	,020	,141	-,162	,043	-,172	-,071	-,003	,073	,212	,018	-,225	-,003	,083	,249	-,147	,121
6	,048	-,080	-,454	-,296	-,057	1,000	,006	,091	-,096	,123	-,183	,045	-,163	-,090	,350	-,124	,014	,040	-,104	,086	-,110	-,052	,218	-,047
7	-,093	-,032	,018	,136	-,049	,006	1,000	-,371	-,119	-,504	-,062	-,286	,185	,013	-,040	,062	-,065	-,216	,250	,063	-,063	-,158	-,183	,058
8	,122	-,025	-,022	-,164	,021	,091	-,371	1,000	-,081	,120	-,360	-,159	-,084	,050	,012	-,071	-,012	,133	-,130	,100	,150	,109	-,126	-,044
9	-,081	-,007	,074	,068	,020	-,096	-,119	-,081	1,000	-,237	-,028	-,355	,065	,178	-,092	-,110	-,034	-,029	,014	-,024	-,022	-,008	-,050	,078
10	,208	,037	-,193	-,243	,141	,123	-,504	,120	-,237	1,000	-,214	-,011	-,256	-,114	,107	-,010	,167	,184	-,278	-,048	,090	,128	,181	-,016
11	-,203	-,072	,215	,321	-,162	-,183	-,062	-,360	-,028	-,214	1,000	-,249	,070	,019	-,019	,230	-,252	-,050	,069	-,207	-,060	-,084	,053	,186
12	,061	,099	-,083	-,139	,043	,045	-,286	-,159	-,355	-,011	-,249	1,000	-,039	-,114	,037	-,137	,198	,052	-,017	,076	-,067	,062	,170	-,236
13	-,196	-,189	,338	,281	-,172	-,163	,185	-,084	,065	-,256	,070	-,039	1,000	,155	-,343	-,432	-,361	-,359	,506	-,063	-,017	-,180	-,216	-,116
14	-,067	,111	,114	-,039	-,071	-,090	,013	,050	,178	-,114	,019	-,114	,155	1,000	-,220	-,234	-,344	-,402	,198	,066	,152	-,037	-,213	-,157
15	,091	-,070	-,193	-,105	-,003	,350	-,040	,012	-,092	,107	-,019	,037	-,343	-,220	1,000	-,067	-,166	-,152	-,262	-,021	-,171	,030	,328	,094
16	-,018	,002	-,004	,069	,073	-,124	,062	-,071	-,110	-,010	,230	-,137	-,432	-,234	-,067	1,000	-,077	,020	-,227	-,047	-,035	-,025	,087	,268
17	,196	,101	-,224	-,222	,212	,014	-,065	-,012	-,034	,167	-,252	,198	-,361	-,344	-,166	-,077	1,000	,043	-,209	,183	,015	,137	-,023	-,053
18	,049	,114	-,129	-,063	,018	,040	-,216	,133	-,029	,184	-,050	,052	-,359	-,402	-,152	,020	,043	1,000	-,172	-,104	,073	,131	,096	,014
19	-,208	-,014	,271	,185	-,225	-,104	,250	-,130	,014	-,278	,069	-,017	,506	,198	-,262	-,227	-,209	-,172	1,000	-,287	-,275	-,437	-,131	-,099
20	,142	,116	-,211	-,082	-,003	,086	,063	,100	-,024	-,048	-,207	,076	-,063	,066	-,021	-,047	,183	-,104	-,287	1,000	,135	-,016	-,364	-,328
21	-,069	,004	,059	,021	,083	-,110	-,063	,150	-,022	,090	-,060	-,067	-,017	,152	-,171	-,035	,015	,073	-,275	,135	1,000	,177	-,437	-,395
22	,057	-,012	-,111	-,081	,249	-,052	-,158	,109	-,008	,128	-,084	,062	-,180	-,037	,030	-,025	,137	,131	-,437	-,016	,177	1,000	-,253	-,283
23	,058	,021	-,063	-,072	-,147	,218	-,183	-,126	-,050	,181	,053	,170	-,216	-,213	,328	,087	-,023	,096	-,131	-,364	-,437	-,253	1,000	,044
24	,056	-,093	-,004	-,016	,121	-,047	,058	-,044	,078	-,016	,186	-,236	-,116	-,157	,094	,268	-,053	,014	-,099	-,328	-,395	-,283	,044	1,000

Where:

No	Description
1	Competitive Strategy Variable: identification of under performing areas in order to cut costs
2	Competitive Strategy Variable: charging lower prices
3	Competitive Strategy Variable: The development of brand strategy and name
4	Competitive Strategy Variable: The investment in sales promotion as a tool to approach customers and increase profits
5	Competitive Strategy Variable: Focusing on inventory management to improve stock control
6	Competitive Strategy Variable: The reduction of labour input through mechanisation & automation
7	Competitive Strategy Variable: The offering of a broad range of products
8	Competitive Strategy Variable: The development of a continuous improvement process in employees' skills
9	Competitive Strategy Variable: The provision of sufficient facilities to support the quality of services
10	Competitive Strategy Variable: The achievement of an increased precision through the production lines by reducing defects
11	Competitive Strategy Variable: The investment in advertising as a tool to approach customers
12	Competitive Strategy Variable: Focusing on product design techniques that economise on costs of materials
13	Competitive Strategy Variable: Making conscious efforts to differentiate your services and products from your competitors
14	Competitive Strategy Variable: The provision of services that meet competitive quality standard
15	Competitive Strategy Variable: The possession of a process to utilise your automation technologies
16	Competitive Strategy Variable: The continuous maintenance and use of loyalty schemes
17	Competitive Strategy Variable: The continuous exercise of tight cost controls and attention to detail
18	Competitive Strategy Variable: The performing of incremental improvements in coordination & organisational structure
19	Competitive Strategy Variable: The continuous developments on new products
20	Competitive Strategy Variable: The improvement of supplier logistics in terms of cost control
21	Competitive Strategy Variable: The continuous improvement of supplier logistics in terms of quality
22	Competitive Strategy Variable: The continuous improvement of supplier logistics in terms of delivery/lead time
23	Competitive Strategy Variable: Focusing on product design techniques that facilitates automation
24	Competitive Strategy Variable: Focusing on improving product packaging

Communalities

Strategy	Initial	Extraction
1	1,000	,575
2	1,000	,855
3	1,000	,623
4	1,000	,708
5	1,000	,782
6	1,000	,713
7	1,000	,838
8	1,000	,719
9	1,000	,913
10	1,000	,568
11	1,000	,592
12	1,000	,747
13	1,000	,737
14	1,000	,782
15	1,000	,727
16	1,000	,719
17	1,000	,693
18	1,000	,787
19	1,000	,775
20	1,000	,772
21	1,000	,640
22	1,000	,639
23	1,000	,739
24	1,000	,728

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,703	15,428	15,428	3,703	15,428	15,428	2,027	8,445	8,445
2	2,449	10,206	25,634	2,449	10,206	25,634	2,001	8,340	16,785
3	1,951	8,129	33,763	1,951	8,129	33,763	1,994	8,310	25,095
4	1,680	7,002	40,765	1,680	7,002	40,765	1,992	8,302	33,396
5	1,536	6,400	47,165	1,536	6,400	47,165	1,855	7,728	41,125
6	1,407	5,861	53,026	1,407	5,861	53,026	1,649	6,870	47,994
7	1,342	5,591	58,617	1,342	5,591	58,617	1,589	6,621	54,615
8	1,175	4,894	63,511	1,175	4,894	63,511	1,582	6,594	61,209
9	1,112	4,635	68,145	1,112	4,635	68,145	1,393	5,805	67,015
10	1,015	4,231	72,376	1,015	4,231	72,376	1,287	5,361	72,376
11	,925	3,856	76,232						
12	,836	3,485	79,716						
13	,776	3,232	82,948						
14	,726	3,027	85,975						
15	,664	2,767	88,742						
16	,627	2,610	91,353						
17	,567	2,361	93,713						
18	,534	2,225	95,938						
19	,507	2,111	98,049						
20	,466	1,941	99,990						
21	,002	,007	99,997						
22	,001	,003	100,000						
23	1,376E-17	5,735E-17	100,000						
24	-7,566E-16	-3,153E-15	100,000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
1	,482	,015	-,185	,195	,127	,139	-,176	-,088
2	,202	,124	-,182	,051	-,214	,446	,690	,089
3	-,625	,012	,251	-,378	-,034	-,008	-,064	,003
4	-,575	-,112	,291	-,117	-,128	-,378	-,072	-,178
5	,353	,123	,247	,289	,041	,107	-,491	,387
6	,371	-,163	-,483	,078	,253	-,317	,042	-,186
7	-,387	-,028	-,180	,675	-,226	-,159	-,041	-,183
8	,273	,294	,063	-,265	,472	,087	-,075	-,468
9	-,200	,078	,142	,147	,396	,320	,033	,162
10	,543	-,031	,083	-,398	,162	,079	-,070	,046
11	-,407	-,382	,361	-,008	-,041	-,126	,275	,218
12	,263	,072	-,344	-,342	-,569	-,102	-,089	,279
13	-,683	,261	-,286	-,148	,030	-,002	-,309	-,011
14	-,332	,418	-,178	,030	,417	,140	,301	,367
15	,314	-,409	-,240	,034	,310	-,522	,073	,148
16	,086	-,396	,517	,285	-,136	-,015	,244	-,084
17	,471	,146	,027	,160	-,447	,215	-,252	-,002
18	,353	-,110	,305	-,307	-,198	,215	,069	-,434
19	-,643	-,004	-,419	-,107	-,117	,295	-,141	-,116
20	,212	,493	-,129	,352	-,104	-,246	,223	-,209
21	,060	,607	,379	-,083	,032	-,231	,167	-,065
22	,342	,342	,383	-,073	-,010	-,245	-,100	,320
23	,205	-,674	-,270	-,334	-,012	-,011	,111	,136
24	-,039	-,593	,202	,296	,231	,345	-,215	-,051

Extraction Method: Principal Component Analysis. - a. 10 components extracted

Rotated Component Matrix[a]

	Component									
	1	2	3	4	5	6	7	8	9	10
1	-,210	,652	,104	,223	,045	-,085	,029	,106	,131	-,084
2	,071	,009	-,073	-,006	,060	,028	,894	-,165	-,113	,031
3	,007	-,433	-,458	,066	-,043	-,120	-,364	-,270	-,020	,017
4	,117	-,285	-,177	-,222	,107	,077	-,596	-,368	-,110	,113
5	,041	,107	-,017	,017	,043	,007	-,023	,875	-,012	-,006
6	-,039	,081	,771	-,079	-,217	,120	,116	-,010	,148	-,088
7	-,079	-,006	,049	-,900	,028	-,052	-,014	,046	,008	-,118
8	,142	,166	,021	,363	-,158	,086	-,026	-,056	,706	-,065
9	-,053	-,017	-,079	-,016	-,103	-,052	,007	,013	,037	,943
10	,006	,106	,105	,654	,045	,096	,079	,170	,139	-,227
11	-,078	-,440	-,110	-,055	,495	-,154	-,146	-,185	-,212	,095
12	,076	,164	-,006	,250	-,287	,079	,092	-,005	-,607	-,431
13	-,073	-,235	-,308	-,249	-,552	-,312	-,307	-,139	,038	-,046
14	,157	-,158	-,135	,025	-,160	-,750	,271	-,040	,163	,153
15	-,066	-,016	,805	,126	,138	-,102	-,139	-,004	-,099	-,017
16	-,100	-,016	-,096	-,070	,810	,100	,017	,013	,046	-,163
17	,022	,603	-,177	,059	-,046	,371	,073	,227	-,307	,055
18	,084	-,120	-,035	,185	,039	,811	,203	-,015	,168	,026
19	-,378	-,312	-,314	-,332	-,496	-,132	,036	-,203	,025	-,138
20	,439	,669	,042	-,194	,035	-,146	,048	-,259	,023	,017
21	,732	-,043	-,170	,037	,054	-,028	,015	,068	,242	-,071
22	,579	-,046	,076	,194	,043	,114	-,051	,465	-,116	,105
23	-,464	-,145	,414	,371	,056	,160	,051	-,215	-,340	-,012
24	-,668	-,038	-,039	-,044	,396	,036	-,092	,229	,213	,114

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 20 iterations.

Component Transformation Matrix

Component	1	2	3	4	5	6	7	8	9	10
1	,133	,511	,412	,451	,142	,339	,295	,332	,012	-,126
2	,716	,269	-,345	-,052	-,422	-,224	,127	,097	,194	,030
3	,322	-,211	-,395	,147	,644	,259	-,253	,245	,152	,212
4	-,095	,409	,103	-,727	,346	-,193	,102	,290	,063	,174
5	-,093	-,125	,358	,262	-,023	-,418	-,101	,082	,657	,395
6	-,490	,066	-,558	,147	-,116	,100	,537	,147	,162	,250
7	,273	-,166	,130	-,001	,382	-,145	,632	-,552	-,034	,097
8	,045	-,208	,025	,228	,044	-,524	,117	,459	-,611	,169
9	,142	-,117	,233	-,162	-,296	,460	,009	-,012	-,220	,733
10	-,105	,592	-,182	,275	,132	-,199	-,334	-,439	-,235	,338

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

5b. Questionnaire Survey: HIERARCHICAL CLUSTER OUTPUT – RESULTS & K-MEANS CLUSTER OUTPUT - RESULTS

Cluster

Notes

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	Cases Used	Statistics are based on cases with no missing values for any variable used.
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	Elapsed Time	0:00:00.049

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Case Processing Summary[a,b]

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
180	98,9	2	1,1	182	100,0

a. Squared Euclidean Distance used

b. Ward Linkage

Ward Linkage

Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	110	182	,000	0	0	93
2	109	181	,000	0	0	97
3	91	180	,000	0	0	133
4	75	179	,000	0	0	81
5	86	178	,000	0	0	45
6	71	177	,000	0	0	81
7	90	176	,000	0	0	148
8	3	174	,517	0	0	53
9	1	9	1,212	0	0	75
10	99	133	2,061	0	0	44
11	67	156	3,073	0	0	44
12	33	59	4,136	0	0	27
13	89	141	5,247	0	0	22
14	6	152	6,406	0	0	72
15	11	157	7,595	0	0	63
16	108	123	8,917	0	0	112
17	23	173	10,257	0	0	99
18	2	165	11,656	0	0	71
19	10	25	13,069	0	0	116

20	21	167	14,501	0	0	127
21	32	80	15,948	0	0	35
22	17	89	17,485	0	13	49
23	118	162	19,076	0	0	67
24	19	131	20,714	0	0	58
25	55	66	22,411	0	0	120
26	38	96	24,173	0	0	78
27	33	69	25,942	12	0	111
28	130	142	27,717	0	0	97
29	46	70	29,503	0	0	82
30	117	146	31,311	0	0	120
31	43	104	33,121	0	0	101
32	36	147	34,979	0	0	71
33	51	58	36,885	0	0	57
34	30	52	38,798	0	0	62
35	32	143	40,711	21	0	88
36	20	159	42,646	0	0	106
37	155	169	44,580	0	0	77
38	113	166	46,595	0	0	96
39	29	171	48,627	0	0	69
40	40	82	50,698	0	0	122
41	8	154	52,790	0	0	107
42	27	47	54,935	0	0	79
43	15	83	57,113	0	0	76
44	67	99	59,297	11	10	115
45	22	86	61,514	0	5	91
46	13	175	63,821	0	0	130
47	16	72	66,137	0	0	52
48	53	150	68,518	0	0	111
49	17	140	70,905	22	0	89
50	103	121	73,304	0	0	84
51	7	31	75,705	0	0	105
52	16	39	78,188	47	0	141
53	3	42	80,694	8	0	93
54	63	76	83,265	0	0	78
55	26	35	85,968	0	0	99
56	50	87	88,685	0	0	106
57	51	116	91,460	33	0	113
58	19	78	94,244	24	0	75
59	45	74	97,052	0	0	122
60	107	144	99,872	0	0	134
61	24	127	102,707	0	0	102
62	30	106	105,643	34	0	127
63	11	170	108,606	15	0	118
64	56	163	111,619	0	0	112
65	4	115	114,644	0	0	110
66	95	101	117,676	0	0	85
67	41	118	120,709	0	23	101
68	34	168	123,882	0	0	126
69	29	48	127,084	39	0	109
70	102	132	130,304	0	0	123
71	2	36	133,566	18	32	110
72	6	126	136,837	14	0	124
73	62	114	140,119	0	0	118
74	73	137	143,457	0	0	103
75	1	19	146,824	9	58	151
76	14	15	150,241	0	43	115
77	134	155	153,756	0	37	117

78	38	63	157,355	26	54	126
79	5	27	160,965	0	42	113
80	77	122	164,589	0	0	147
81	71	75	168,227	6	4	141
82	46	88	171,881	29	0	129
83	64	149	175,582	0	0	119
84	103	158	179,286	50	0	92
85	65	95	183,124	0	66	149
86	44	81	187,046	0	0	107
87	135	148	190,968	0	0	135
88	32	139	194,983	35	0	130
89	17	136	199,051	49	0	132
90	60	94	203,122	0	0	108
91	22	92	207,225	45	0	104
92	103	160	211,371	84	0	128
93	3	110	215,565	53	1	139
94	84	124	219,841	0	0	139
95	54	79	224,158	0	0	124
96	111	113	228,484	0	38	144
97	109	130	232,861	2	28	137
98	151	153	237,313	0	0	142
99	23	26	241,784	17	55	116
100	37	125	246,397	0	0	152
101	41	43	251,182	67	31	155
102	24	119	256,093	61	0	119
103	73	138	261,321	74	0	157
104	22	112	266,690	91	0	147
105	7	12	272,072	51	0	145
106	20	50	277,463	36	56	159
107	8	44	282,859	41	86	158
108	60	61	288,341	90	0	131
109	29	49	293,858	69	0	138
110	2	4	299,437	71	65	159
111	33	53	305,142	27	48	151
112	56	108	310,928	64	16	138
113	5	51	316,771	79	57	136
114	105	172	322,663	0	0	135
115	14	67	328,702	76	44	154
116	10	23	334,780	19	99	153
117	57	134	340,889	0	77	128
118	11	62	347,221	63	73	161
119	24	64	353,559	102	83	144
120	55	117	360,087	25	30	150
121	120	164	366,830	0	0	140
122	40	45	373,628	40	59	149
123	98	102	380,530	0	70	156
124	6	54	387,507	72	95	145
125	93	100	394,546	0	0	131
126	34	38	401,608	68	78	154
127	21	30	408,797	20	62	150
128	57	103	416,183	117	92	160
129	46	85	423,591	82	0	142
130	13	32	431,080	46	88	152
131	60	93	438,575	108	125	166
132	17	129	446,124	89	0	137
133	91	161	454,280	3	0	157
134	97	107	462,465	0	60	143
135	105	135	470,971	114	87	143

136	5	145	479,640	113	0	148
137	17	109	488,625	132	97	163
138	29	56	497,713	109	112	153
139	3	84	507,624	93	94	158
140	68	120	517,830	0	121	146
141	16	71	528,085	52	81	164
142	46	151	538,445	129	98	165
143	97	105	549,267	134	135	165
144	24	111	560,229	119	96	167
145	6	7	571,307	124	105	168
146	28	68	582,856	0	140	174
147	22	77	595,496	104	80	162
148	5	90	608,644	136	7	161
149	40	65	621,951	122	85	160
150	21	55	635,582	127	120	155
151	1	33	650,164	75	111	156
152	13	37	665,502	130	100	167
153	10	29	681,177	116	138	164
154	14	34	697,026	115	126	166
155	21	41	713,109	150	101	170
156	1	98	729,775	151	123	163
157	73	91	747,089	103	133	162
158	3	8	764,454	139	107	169
159	2	20	782,666	110	106	168
160	40	57	803,176	149	128	170
161	5	11	824,315	148	118	172
162	22	73	851,219	147	157	174
163	1	17	878,745	156	137	169
164	10	16	906,673	153	141	171
165	46	97	934,902	142	143	173
166	14	60	963,962	154	131	171
167	13	24	1000,733	152	144	172
168	2	6	1038,463	159	145	175
169	1	3	1081,149	163	158	175
170	21	40	1127,971	155	160	176
171	10	14	1175,552	164	166	179
172	5	13	1231,097	161	167	173
173	5	46	1290,226	172	165	177
174	22	28	1357,172	162	146	177
175	1	2	1427,359	169	168	176
176	1	21	1509,141	175	170	178
177	5	22	1595,432	173	174	178
178	1	5	1688,993	176	177	179
179	1	10	1790,000	178	171	0

K-MEANS CLUSTER

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Quick Cluster

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	Cases Used	Statistics are based on cases with no missing values for any clustering variable used.
Syntax		QUICK CLUSTER FAC1_1 FAC2_1 FAC3_1 FAC4_1 FAC5_1 FAC6_1 FAC7_1 FAC8_1 FAC9_1 FAC10_1 /MISSING=LISTWISE /CRITERIA=CLUSTER(10) MXITER(10) CONVERGE(0) /METHOD=KMEANS(NOUPDATE) /SAVE CLUSTER /PRINT INITIAL.
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Initial Cluster Centers

	Cluster									
	1	2	3	4	5	6	7	8	9	10
REGR factor score 1 for analysis 1	1,85995	1,66630	1,98405	-,80302	1,06769	-,99583	-,67908	1,65087	,71144	-,43994
REGR factor score 2 for analysis 1	1,55254	1,46726	-1,07851	,73544	,03608	1,24066	1,57520	2,15104	-,95716	,72971
REGR factor score 3 for analysis 1	,43224	-1,87706	,43085	,01982	,87645	,13367	,66391	-1,99715	-,34607	-2,81821
REGR factor score 4 for analysis 1	,56720	2,33850	-1,12179	-,46875	,08558	,97154	-,62215	,88641	-,80890	,37110
REGR factor score 5 for analysis 1	-4,00813	-2,68097	-2,57182	,53796	,13809	,53848	-1,98835	,61288	-1,00747	-2,84307
REGR factor score 6 for analysis 1	1,74608	-,86721	-1,75978	,18895	,27211	-,31103	-,15615	-,50145	1,67608	-,65328
REGR factor score 7 for analysis 1	-,02449	-1,92644	,50066	-2,14538	1,19550	-,11052	,96604	,36267	,68503	1,18823
REGR factor score 8 for analysis 1	1,18386	,05839	2,09512	-1,67782	,87498	1,86153	1,02978	-,61599	-1,75800	-,81136
REGR factor score 9 for analysis 1	-,28626	1,14747	,24024	1,08200	3,03253	-,58174	-1,59703	-1,54827	-,73011	1,55198
REGR factor score 10 for analysis 1	,03364	-,20379	-1,46581	-,56046	-,48158	-1,59298	2,80101	,51198	-2,28826	1,76673

Iteration History[a]

Iteration	Change in Cluster Centers									
	1	2	3	4	5	6	7	8	9	10
1	1,584	2,256	2,354	2,216	2,309	2,177	2,554	2,569	2,449	2,549
2	,000	,000	,403	,320	,225	,289	,502	,441	,252	,000
3	,000	,000	,636	,328	,291	,188	,293	,452	,253	,000
4	,000	,000	,519	,240	,178	,172	,261	,178	,183	,000
5	,000	,000	,000	,000	,093	,065	,000	,196	,000	,000
6	,000	,000	,366	,000	,000	,119	,000	,109	,000	,000
7	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000

a. Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is ,000. The current iteration is 7. The minimum distance between initial centers is 4,810.

Final Cluster Centers

	Cluster									
	1	2	3	4	5	6	7	8	9	10
REGR factor score 1 for analysis 1	1,29420	,44623	,99099	-,42072	,26106	-,53693	-,45992	1,09882	-,29543	-,21449
REGR factor score 2 for analysis 1	1,30844	,37121	-,13708	-,16877	-,09521	,56825	-,51949	,11526	-,47640	,44303
REGR factor score 3 for analysis 1	,42749	-1,82496	,57015	,28508	,33567	-,10556	,73838	-,82356	,03539	-1,74827
REGR factor score 4 for analysis 1	,11341	1,24917	-,94304	-,23095	,54802	,66862	,33595	-,68779	-,47882	-1,14168
REGR factor score 5 for analysis 1	-2,85546	-2,60504	-,67282	,25269	,31336	,35297	-1,10346	,61599	-,11118	-2,11846
REGR factor score 6 for analysis 1	1,76483	-,51285	-1,20811	,32032	,22062	-,41302	-,18658	-,11441	,58946	-,87326
REGR factor score 7 for analysis 1	,40213	-1,87147	-,18983	-1,40022	,56871	,26359	,61762	,16500	,37331	,62784
REGR factor score 8 for analysis 1	1,36305	,91735	1,22910	,01037	-,15976	,17750	,32924	,08663	-,75436	-1,26375
REGR factor score 9 for analysis 1	-,89514	1,44558	,45300	,10515	1,22289	-,54384	-,49541	-,37626	-,53993	,29728
REGR factor score 10 for analysis 1	,13460	-,70300	-1,05086	,36886	,20413	-,52953	1,17385	,46022	-,73394	1,25159

Number of Cases in each Cluster

Cluster	1	2,000
	2	3,000
	3	9,000
	4	32,000
	5	31,000
	6	36,000
	7	13,000
	8	24,000
	9	26,000
	10	4,000
	Valid	180,000
	Missing	2,000

APPENDIX 6

Interview Data – Respondents' Views - Categorised By Value Chain Activities (Both Primary & Secondary)

Table A.1: Activities Reported within Inbound Logistics & Firms' Strategic Direction

Activity Description	Strategic Direction	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
Various systems to control inbound logistics in terms of financial controls	CL			yes			yes							yes	yes	
Various systems to control inbound logistics in terms of wastage of incoming goods	CL			yes		yes	yes				yes		yes	yes	yes	yes
Various systems to control inbound logistics in terms of checks on weight/measure	CL	yes		yes		yes	yes		yes	yes	yes	yes	yes	yes	yes	yes
Various systems to control inbound logistics in terms of quality	DS	yes		yes		yes	yes		yes		yes	yes	yes	yes	yes	yes
Various systems to control inbound logistics in terms of quantity received - utilise space	CL	yes		yes		yes	yes		yes	yes	yes		yes	yes		
Paying suppliers on time - better discount negotiations	DS	yes		yes												
Negotiation for longer periods if suppliers provide a price reduction	CL			yes												yes
Working with 3rd party suppliers to get better deal and have better profit margin	CL			yes							yes	yes		yes	yes	yes
Superior handling of incoming raw materials to minimise damage	CL		yes		yes	yes		yes	yes		yes		yes	yes	yes	yes
Located in close proximity with suppliers	CL				yes					yes		yes	yes		yes	
Sample check of incoming raw materials based on specification given to suppliers	CL					yes										

Table A.2: Activities Reported within Outbound Logistics & Firms' Strategic Direction

Activity Description	Strategic Direction	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
Control of deliveries prior to going to customers so to reduce returned items	CL	yes		yes					yes	yes	yes				yes	
Efficient order sizes	CL	yes	yes	yes	yes		yes	yes		yes	yes	yes			yes	
Accurate and responsive order processing procedures	DS	yes		yes			yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Rapid & timely product deliveries to customers	DS	yes	yes	yes	yes	yes		yes	yes	yes	yes	yes	yes	yes		yes
When order is placed then automatically assigns the transport company to deliver goods	DS		yes			yes			yes	yes	yes				yes	yes
Close relationship with transport companies	CL					yes	yes		yes					yes		
Delivery planned with the purpose of delivering on time and control costs	CS	yes									yes		yes	yes		

Table A.3: Activities Reported within Operations & Firms' Strategic Direction

Activity Description	Strategic Direction	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
Rapid responses to customers' unique manufacturing specifications	DS	yes	yes	yes	yes		yes		yes		yes	yes	yes	yes	yes	yes
New equipment to automate processes and reduce costs	CL			yes				yes		yes	yes				yes	yes
Bespoke capital equipment to produce product design that others cannot	DS	yes		yes		yes			yes	yes		yes	yes			
Efficient plant scale to minimise manufacturing costs	CL		yes			yes				yes			yes	yes	yes	
Incremental improvements in coordination & organisation (quality & costs)	CL	yes	yes			yes								yes		
Specialisation of labour	CL	yes			yes		yes		yes	yes	yes		yes	yes		yes
High tech manufacturing (reduced labour input - automation)	CL	yes					yes	yes	yes	yes	yes		yes	yes		yes
Outsourcing parts of manufacturing for bespoke solutions and quality	DS					yes	yes							yes		

Table A.4: Activities Reported within Marketing & Firms' Strategic Direction

Activity Description	Strategic Direction	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
Extensive personal relationship with buyers	DS	yes		yes	yes	yes	yes		yes	yes	yes		yes	yes		yes
Competitive price but high quality	CS			yes					yes		yes			yes	yes	yes
Quality sales literature (provide better information to aid customers in selection)	DS	yes		yes		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Build brand awareness & reputation: Launch of marketing campaigns	DS	yes		yes		yes				yes	yes			yes		yes
Competitor Analysis (products, markets, prices)	DS		yes	yes	yes	yes		yes	yes	yes	yes	yes		yes	yes	
National Scale advertising (create scale economies in buying media space/time)	DS	yes	yes			yes	yes		yes		yes		yes	yes	yes	yes
Market research	DS		yes			yes		yes	yes		yes		yes	yes	yes	yes
Strong coordination among functions	CL	yes	yes					yes			yes		yes	yes	yes	yes
Build brand awareness & reputation: Trade exhibitions	DS	yes	yes			yes		yes	yes	yes	yes		yes	yes	yes	
Products priced to generate sales volume	CL		yes		yes											
Build brand awareness & reputation: Large number of samples to customers so to evaluate their products	DS							yes			yes	yes	yes	yes		
Small highly trained sales force	CL					yes		yes			yes		yes	yes	yes	yes
cost control on promotional activities	CL					yes		yes						yes	yes	yes
Build brand awareness & reputation: use of website	DS	yes				yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Use of agents for distribution channel with the purpose of reaching customers	DS					yes	yes			yes		yes		yes		
Charge premium pricing	DS											yes				yes
Build brand awareness & reputation: Direct Marketing	DS	yes				yes	yes		yes				yes	yes		
Strong relationship with customers to produce growth in their market	DS	yes				yes							yes	yes		
Highly specialised sales force (for each customer segment)	DS					yes			yes					yes		

Table A.5: Activities Reported within Services & Firms' Strategic Direction

Activity Description	Strategic Direction	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
Customer liaison (effective & satisfactory)	DS	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
High product and service liability	DS	yes	yes	yes	yes	yes		yes	yes		yes	yes	yes	yes	yes	yes
Customer credit	DS			yes				yes	yes					yes		yes
Dedicated phone line	DS	yes			yes	yes	yes	yes	yes	yes	yes	yes		yes		yes
annual meetings with major customers	DS	yes								yes			yes	yes		
Step by step instructions	DS					yes				yes			yes	yes		
Available spares for replacement	DS	yes				yes			yes				yes	yes		
Effective product installations to reduce recalls	CL	yes							yes				yes	yes		
Traning for customers	CL								yes					yes		

Table A.6: Activities Reported within Human Resources & Firms' Strategic Direction

Activity Description	Strategic Direction	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
Development & learning culture	DS			yes		yes			yes					yes		
Redutancies to cut costs	CL		yes	yes								yes		yes	yes	
Training to improve performance	DS	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes		yes	yes		yes
Apraisal & reward System	DS			yes		yes		yes					yes	yes		yes
Succession planning for those retiring	DS					yes										
Health care/pension scheme/recognition/bonus	DS	yes	yes	yes		yes		yes		yes	yes	yes	yes	yes	yes	yes

Table A.7: Activities Reported within Firm Infrastructure & Firms' Strategic Direction

Activity Description	Strategic Direction	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
Few management layers to reduce overhead	CL	yes		yes	yes		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Highly developed IT	CL	yes	yes	yes		yes		yes	yes					yes	yes	
Simplified planning practices to reduce planning costs	CL	yes		yes			yes	yes			yes	yes	yes	yes		yes
CRM Systems	DS		yes			yes								yes		yes
Quality procedures to reduce costs and offer good quality	**CS**				yes		yes	yes						yes		yes
Various processes to control the business operations	CL	yes					yes		yes	yes	yes		yes	yes		

Table A.8: Activities Reported within Technology Development & Firms' Strategic Direction

Activity Description	Strategic Direction	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
Investments in Technology in order to Reduce Costs Associated with mnfctring	CL		yes	yes				yes	yes	yes				yes	yes	
Coordination among R&D, marketing and product development	CL	yes	yes	yes		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Easy-to-Use Manufacturing Technologies	DS	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Strong capability in basic research	DS	yes		yes	yes			yes	yes	yes	yes	yes	yes	yes	yes	yes
The use of Internet for customer retention & acquisition	DS		yes	yes		yes		yes	yes	yes	yes			yes	yes	yes

Table A.9: Activities Reported within Procurement & Firms' Strategic Direction

Activity Description	Strategic Direction	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
frequent evaluation of processes to monitor suppliers' performance	CL		yes	yes			yes	yes	yes	yes	yes		yes	yes		
Systems & procedures to monitor and locate various suppliers	CL		yes	yes		yes		yes	yes	yes	yes			yes		
Systems & procedures to choose the best price available in the market	CL			yes	yes	yes							yes	yes	yes	yes
Dedicated suppliers to buy quality material	DS	yes		yes				yes	yes	yes	yes		yes		yes	yes
Located in close proximity with suppliers-keeps the costs down	CL				yes						yes				yes	
focused on the lowest cost supplier	CL				yes									yes		
Overseas suppliers that produce in low cost (not china)	CL									yes						
Best deal for the business	CL	yes	yes	yes	yes	yes		yes	yes	yes	yes		yes	yes		
Variety of suppliers (UK & abroad) for better quality, cost, & bulk dvlr	CS		yes	yes		yes		yes	yes	yes	yes		yes	yes	yes	yes
Purchase of highest quality replacement parts	DS												yes			
Quality and availability rather than price (when choosing a supplier)	DS	yes											yes			

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